AMERICAN BEE JOURNAL

46th Year. CHICAGO, ILL., JAN. 25, 1906. No. 4.

APIARY OF WM. B. LOWE, OF COHOES, N. Y.

APIARY OF ALLEN LATHAM, OF NORWICH, CONN.

(See page 79.)

THE AMERICAN BEE JOURNAL

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IMPORTANT NOTICES

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(INCORPORATED)

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GEORGE W. YORK, Editor | CHICAGO, ILL., JANUARY 25, 1906 | Vol. XLVI—No. 4

Editorial Notes and Comments

A 32-Page Number Again

It will be noticed that this is another 32-page number of the American Bee Journal. It was made so on account of the index for 1905, and also by reason of the length of the Ontario convention report. Like all its predecessors, this copy will repay a thorough reading. And its cost to the subscriber is less than 2 cents! Can't you help to get other bee-keepers to read it regularly?

Convention Program—Question-Box Best

Regarding the Colorado State convention, Jan. 30 and 31, R. C. Aikin says in Irrigation:

"As yet no set program has been arranged. In fact, it seems some of our best conventions are the more informal ones."

Probably not many would dissent from that opinion. The only wonder is that in so many cases live discussions are crowed out by too many or too long papers. It is a rare case that will justify any paper at a convention, except one to open, but not to complete, a discussion. And with the right presiding officer generally a topic is better to be opened without the paper.

Prices of Honey—Are They High Enough?

We have received the following from Mr. M. A. Gill, one of Colorado's leading comb-honey producers:

SHOULD THE PRICE OF HONEY GO HIGHER?

FRIEND YORK:—I have asked this question, and will answer it from my own view-point, and would like to read other opinions on the subject.

I am not one who thinks the prices for comb and extracted honey should be higher than the present market quotations. Neither do I believe that honey and butter should go hand in hand with regard to prices. Honey outranks butter as a luxury, but is not the equal of butter as a necessity; neither does it cost as much to produce it, pound for pound.

What the honey market needs is an increased consumption of the pure article upon the tables of the masses. And how best to do this is the question before the honey-producers of to-day. Unfortunately for the best interests of the honey-business, the great mass of retailers who place the honey of the country in the hands of consumers, are ignorant on the question of honey, and a large portion are unscrupulous in making sales. For many an ignorant clerk or salesman has represented that here is a pure article (of either comb or extracted) made by the bees, and here is an article that is manufactured; when both are pure, but one grade may be granulated or amber-colored. Sometimes I think they do it to make a sale, and sometimes to appear wise. And I believe as much harm is done in this way as by the newspaper canards, for the actual consumer is given to understand that manufactured honey is on the open market, and the next time he buys he has to be shown again.

We who produce honey, and sell in carload lots to the jobbers, can do but little in the great work that needs to be done, for when the car has gone forward we feel like taking a little rest, and then begin operations for the next crop.

But what the consumer and producer both need is more men like Mr. Niver, who have eaten of the insane root "Ambition," who will cover the whole country, who know what pure honey is, and who will open a bureau of intelligence in every neighborhood, telling the glad news that honey *is pure*, and that it's cheap and healthful. And then consumption will increase, and prices will take care of themselves. M. A. GILL.

Well, there's a question for the debaters. Mr. Gill has given his side of the case very plainly and forcibly. He seems to think that honey prices are about high enough. Well, they probably are in some "localities." But we believe in some markets they are too low. Still, as Mr. Gill says, increase the consumption or demand and "prices will take care of themselves."

What do you think about it?

Inspectors of Apiaries in Canada

Heretofore the Province of Ontario has had an inspector and a sub-inspector. At the last meeting of the Ontario Association, it was decided to ask the Government to change this so as to have the Province divided into 3 districts, with an inspector for each. This will not only give a 50 percent stronger force, but it will save much travel on the part of the inspectors.

Why is the Royal Cocoon Incomplete?

Allen Latham is not satisfied with the old answer that it is "for the easy stinging of the occupant by a rival," and makes a guess which is possibly nearer the mark. He says in the American Bee-Keeper:

"The cocoon is imperfect simply as a matter of convenience and safety to the larva spinning it. The cell in which she lives is over-large, and if she once gets turned about in this cell she finds it extremely difficult to regai the normal position. In consequence of this condition sh spins a cocoon about that portion only of the cell which sh

can conveniently and safely reach without letting go from above. This answer has not been tested for its correctness to my complete satisfaction, but as a guess it is logical, and has not been founded upon the throw of a dice. In connection with this is seen why the larva does not spin the cocoon to the extreme apex of the cell, spinning down only so far as she can conveniently reach."

Miscellaneous News Items

The Annual Index for 1905 will be found in the central 4 pages of this number of the American Bee Journal. Those pages can very easily be torn off the wire stitches and put in the proper place at the back of the last number for 1905, and then filed away, or bound, if so desired.

We regretted very much not being able to get out this index so as to have it in the last issue of 1905 where it belonged, but it was an utter impossibility to do so, owing to the National convention held here at that time. But it will be all right if it is transferred as directed.

Mr. Orel L. Hershiser, of Buffalo, N. Y., reported Jan. 15 that he had been suffering from the grip most of the time since returning home from the National convention. He says that bees had the finest winter flight imaginable that day (Jan. 15). The temperature at 2 p.m. was 47 degrees above zero, the wind hardly noticeable, no snow on the ground, the weather hazy, but the sun shining through it all day. Mr. Hershiser's article in this week's issue will be read with much interest, as his Combined Hive-Stand and Bottom-Board seems to be the thing, both for moving bees and for cellar-wintering.

The Ontario Convention Report—a large part of which appears in this number—will doubtless be read with great interest, not only by our Canadian subscribers, but by all others. We regretted not to have a copy of Mr. Lowey's paper to appear in its proper place, but hope to get it in time to publish it with the balance of the report next week. Canadian bee-keepers always have good conventions; they have some expert bee-folks over there, so there is no reason why they should not have fine meetings. They were well represented at the Chicago-Northwestern and National meetings in Chicago last month, as has been mentioned before.

Hershiser Hive-Stand and Bottom-Board.—Through the courtesy of Gleanings in Bee Culture we use the engravings in the article by Orel L. Hershiser, on pages 73 and 74. The descriptions of the several illustrations which appeared in Gleanings with the engravings, in January, 1905, are as follows:

The salient objects of this combined hive-stand and bottom-board appear clearly after a careful study of the illustrations presented herewith.

Referring to the lettered parts of the engravings, A is the bottom-board; B the front, or alighting-board; C the bail-like support of the front, and D the flexible wire support of the rear ends of the bottom-board when the same is in ordinary outdoor use; E the pins used to regulate the size of entrance to hive and depth of space under the bottom-bars of frames; F the upper inside rim which forms a shoulder against which the bottom-board rests snugly when held in its highest position by the bail-like support C and the flexible wire support D; G is the hooks by means of which the alighting-board B is coupled to the bottom-board A—loops in the alighting-board B corresponding to the hooks in the bottom-board A; and H is the front sill.

Fig. 1 is a longitudinal sectional elevation through a vertical plane on a line between the two sides, which passes through one of the loops G, of a combined hive-stand and bottom-board, showing the relation of the various parts to the bottom and alighting-boards A and B respectively, in normal position for ordinary outdoor use. This figure, in connection with Figs. 2 and 3, clearly shows the manner of supporting the bottom-board A by means of the flexible wire spring D and the bail-like support C. The bottom-board A is lowered, for the purpose of enlarging the entrance to the hive, by pushing the bail-like support B back until it engages the pins E. One or more of these adjustments may be provided as needed or desired. The front board B is here shown in its capacity as an alighting-board, it being coupled to the hooks G of bottom-board A, by means of the corresponding loops on the upper edge of the alighting-board.

Fig. 2 is a perspective view of the hive-stand and bottom-board detached, showing details of construction of the upper and under side of the bottom-board A and of the stand. It will be observed that the flexible wire spring D is self-adjusting to any angle of the bottom-board A required in enlarging or contracting the entrance to the hive, it being sufficiently yielding for this purpose, and at the same time rigid to the extent of holding the rear end of the bottom-board A firmly against the under side of the rear portion of the upper inside rim F, Fig. 1. It will also be observed that the bail-like support C may be inclined at any desired angle for the purpose of lowering or raising the front end of bottom-board A to enlarge or contract the entrance to hive, and that, when closing the hive and stand, the bail-like support C is pulled forward until its upper part drops into the rabbet of the front sill H (rabbet shows in Fig. 2, but is not lettered), thus permitting the bottom-board A to be dropped to lower position where it rests snugly upon the upper surface of the lower inside rim into which the bail-like support C hinges.

Fig. 3 is a perspective view of the combined hive-stand and bottom-board adjusted for ordinary outdoor or summer use, with bottom-board A in highest position, resting snugly against the shoulder formed by the upper inside rim F; the front board B in position as an alighting-board, and the flexible wire support D shown by dotted line. The separate view of the alighting-board B, Fig. 3, shows the loops by means of which it is coupled to the bottom-board A by engagement with the corresponding hooks G, Fig. 3. It will be observed that the front board (alighting-board) B is provided with a substantial cleat the full length of its under side, joined in such position as will support it at the proper angle when in use as an alighting-board, and also to lock the bottom-board A securely in its lower position when used as a front board to confine the colony of bees within the hive and stand.

Fig. 4 is a perspective view showing the bottom-board A lowered and the alighting-board B inserted as a front board, which closes up the hive and stand as used in cellar-wintering or in the transportation of bees. The bottom-board A is held securely in place by the cleat just beneath the flexible wire spring D and by the cleat on the front board B, shown on the under side thereof in Fig. 3. When so closed, the bottom-board A rests snugly on the cleats forming the lower inside rim into which the bail-like support C is hinged at sides of the stand, thus making it impossible for the bottom-board A to get shifted from its place while the front board B is inserted. A small ring fastened midway of the lower edge of the front board B, as shown in Figs. 1, 3 and 4, is convenient in inserting and withdrawing it. The front board B may be held in place by means of a button, or by a wire key dropped through eyelets screwed into the front of the stand just above the upper and below the lower margins of the front board B. Devices for holding the front board B in place, when stand is closed, are not shown in the engravings.

The wire-cloth screen at sides of stand, as shown in Figs. 2, 3 and 4, is for the purpose of giving needed ventilation at all times when the colony of bees is enclosed.

Referring to the engravings in a recent letter from Mr. Hershiser, he adds the following:

"Some important improvements have been made in the details of construction since the engravings were made. The stand is now made 1⅛ inches lower, which gives much greater strength, without detracting from any of its useful features. It also makes it cheaper to construct. The rear supporting device for the floor-board is now made of two flat springs, one at each side of the rear end of stand. The front supporting device which holds the floor-board in position is now hinged in the front sill or cross-piece instead of the lower side-cleats. All this makes the device neater in appearance, and the alighting-board is naturally in a more nearly horizontal position. Other minor improvements have also been incorporated."

The Wood Binder (or Holder) for holding a year's copies of the American Bee Journal is a splendid thing for the purpose, and also for the little money asked for it. It is mailed for only 20 cents, or with the American Bee Journal a year—$1.10 for both. But we have run out of them lately, though we have an order in for a good supply which we expect to receive and be able to mail about Feb. 1. The reason of delay is because of the factory making them is behind in its orders. So those who have ordered "Wood Binders" of us will now know why they have not received them. They will be mailed just as soon as we can get them ourselves. In the meantime we would advise others of our readers to order them, as they certainly are a very convenient thing for keeping together for ready reference the copies of the American Bee Journal as they are received from week to week.

You Can Help Greatly—both us and the advertisers in the American Bee Journal—if you will not only patronize those who advertise in these columns, but if you will also not fail to mention having seen the advertisement in the American Bee Journal whenever you write to any of them. If it were not for the advertising patronage we receive the American Bee Journal could not be furnished at the low price of $1.00 a year. So kindly help all concerned by doing business with our advertisers and mentioning that you saw their advertisement in the American Bee Journal.

Canadian Beedom

Conducted by MORLEY PETTIT, Villa Nova, Ont.

A Rising Canadian Bee-Keeper—Contraction When Hiving Swarms

Frank P. Adams, of Brantford, is one of our rising young Canadian bee-keepers, who, last season, managed a large apiary exclusively for comb honey and queens. In the December Canadian Bee Journal he has the audacity to rise up and criticise some of the old established ideas about comb-honey production. If he had not produced about 10,000 pounds of comb honey in his one yard last summer we might be tempted to advise him to "go away back and sit down." As it is, we shall proceed "to pick his bones."

Mr. Adams criticises the method of contraction of brood-chambers when hiving swarms for the production of

FRANK P. ADAMS

comb honey. Strong swarms, he says, "instead of staying put in the little brood-nest, fool their time away in repeated attempts to change their quarters, and try the operator's strength and patience in an endeavor to get them back to work again." I have had little difficulty on this score where they were given the whole brood-chamber for 3 or 4 days, or even a week, then contracted. Aspinwall recommended, at the National, contracting in a different way by separating the combs with slatted dummies instead of crowding the combs to the center and dummies at the outside.

That they fill this brood-chamber quickly and swarm again, as Mr. Adams says often happens, is a serious objection to the contracted brood-chamber. But the next objection I can not see how to avoid; whatever will really increase the profits of the apiary I am prepared to do or hire done, if possible. I mean where he says:

"There is another objection to the contracted brood-nest that becomes serious as the number of our colonies multiply, and that is the work of going through the recently-hived swarms for the purpose of taking out part of the frames and replacing them with dummies, and again after the honey-flow taking out the dummies and putting back frames in their place. The work in a fair-sized yard is enormously increased if we must be constantly tinkering with the brood-nest. In the spring, before the honey-flow is on, it is profitable to go through the yard and make use of every little kink we know of in order to build up colonies to their maximum strength, but when the flow commences there is plenty of work with the swarms and supers to keep our time fully occupied."

By "swarms" in the last sentence, I think Mr. Adams can not mean natural swarms, but rather shaken or some other sort of artificial swarms. I look back on my years of experience with natural swarming as on a dismal nightmare. Mr. Adams says further:

"In many localities the flow shuts off as soon as the clover and basswood is through blooming, and it is only in favorable years that the fall flow is sufficient to keep the bees from drawing on their stores for late brood-rearing. With such conditions, it is evident that winter stores must be secured from the white honey-flow, and unless part of the yard has been put to filling frames to supply the rest in the fall, our only recourse is the sugar-barrel. Under these conditions we might just as well have a few frames filled out in the brood-chambers while the flow is on, so as to supply them from supers."

This reads well, and often works all right, but when the flow stops unexpectedly we have these brood-chamber combs filled and sections only partly filled. It would seem to me the more cautious plan to allow room for only brood in the brood-chamber, and when sections come off add combs of honey from elsewhere. Mr. Adams continues:

"Big swarms mean fast work in the supers, and we are unable to build up our colonies so that the hives are crowded with bees from top to bottom, then it is always possible to unite two weak colonies, so that their combined forces will hustle the honey into the supers much faster than they would have done had they been hived separately, and if our swarms are strong—very strong—it will be found that 8 Langstroth frames filled from top to bottom with foundation are none too many in the hive-body, and that a colony so fixed, and with a good queen, will go ahead with the work in the supers at a surprising rate, and, having plenty of room below, will go into winter quarters stronger in bees and require less feeding than one that has been contracted down."

After all, Mr. Adams and I are not so far apart, for my idea of a contracted brood-chamber is a 12-frame contracted to about 7 frames. All this goes to show the complications introduced, and corresponding skill needed, for successful comb-honey production.

Paragraphic Comments

To A. C. Miller's tar-paper-wrapped hives "York County Bee-Keeper" says, "No, siree," for an old-fashioned Canadian winter.

Herbert Kirkham, Vladimir, Russia, writing in the Canadian Bee Journal, says their bees are practically in the cellar 6 months and outside 6 months. About 90 percent of the bees are in log hives. Their principal crop is from buckwheat, yielding 30 to 40 pounds per annum. He concludes by saying the principal foods of the Russian peasants are "salted cucumbers, rye-bread, sour cabbage, and buckwheat porridge." Is it any wonder they throw bombs at the Czar?

The Farmer's Advocate, Montreal Witness, and Family Herald, each give reports of a column or more of the National convention held in Chicago last month.

A Fraternal Greeting

Welcome "Southern Beedom" to the columns of the "Old Reliable." "Canadian Beedom" extends to you a fraternal hand.

(*Aside in stage whisper.*) Cheer up, Canadian beedomites! Are we going to let any Southern department, or any other, for that matter, get ahead of *OURS*? Send in your experiences and ideas. I know Canadians are full of them. Plenty of time for them to grow these long winter evenings. Put them down on paper, and while you are helping some one else you will be helping yourself by crystallizing your own thoughts.

Weather Forecasts

In the Canadian Bee Journal R. F. Holtermann gives timely advice on studying weather signs. Our Lord, he says, who never made a mistake, nor spoke lightly, said, "Ye can discern the face of the sky and of the earth." So we can by studying "the tenor of seasons, the result of winds from certain directions, the deductions we may draw

from certain clouds at certain times of the day, and the suggestions we get from certain sunrises and sunsets," learn to forecast the weather with a measure of certainty. This is particularly profitable to any agricultural pursuit.

Honey Around Edges of Flight-Holes

"Sister" Wilson (page 12) failed to note how bees carry honey away in small particles, some of which are liable to get stuck around the edges of any hole through which they fly.

Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

FOR AND AGAINST BLACK BEES.

Harry Lathrop against the black bees seems to be a temperate and reasonable opposer. Perhaps he's right, that those of us who keep a sort of lingering, half-way bias in their favor would be cured if we were obliged for a season to run a whole apiary of them. He is generous to say: "I fully agree that by proper care the black race might be made equal to any for honey-gathering qualities, and we all like the way they cap their comb honey, but they are so disagreeable to work with that I think very few having had experience with them would wish to increase the stock." Hope the brother who scolded me so roundly in a recent number will note how nearly Mr. Lathrop comes to saying the same things as I. Page 860.

BEES SPOTTING HIVES IN EARLY DECEMBER.

So Canadian bees were spotting things and showing signs of engorgement before the middle of December. Not as their owners would choose to have it. And the Canadian weather unusual in the direction of being sudden and unexpected. Apparently most climes can say, "Same here," if those strict words are adhered to. Page 861.

BABY NUCLEI AND QUEEN-REARING.

Mr. Pharr and the other Texans have certainly got the mating of queens in baby nuclei down fine. Only one little comb, which is only one-sixth standard size. No brood at all. Only 50 to 250 bees, according to weather. Say, I have an invention whereby a virgin and a couple of small horse-flies are baby-nucleied in a glass bottle. Cut the cork so the queen can get out and in, but her companions not.

Facts are facts; and the baby nucleus may be all right—afterthinkers to the contrary notwithstanding; but I confess to feeling toward the little device somewhat as a porcupine feels when he sees a dog. To populate 300 mating-boxes with the bees of one colony, and practically throw them away when the queens are sold, is somewhat attractive, I grant. Per contra, making the required number of old-style, 3-frame nuclei must make ugly havoc with an apiary, any one can see. No wonder breeders wish to avoid this. Mr. Atchley's remark that orders for queens are mostly received when none can be mated successfully in the baby boxes is instructive in its way. One thing I didn't think of before in this connection is that good, strong nuclei are liable to act like full colonies and resist the introduction of a virgin for a week or more. This wastes time sadly, besides sometimes killing a queen. Worse yet, they may leave her a damaged but not quite unsalable article at the end of the unpleasantness. The upshot is that the baby-farmers are not quite cannibals, nor yet fools; but still, it seems to me, that critics best serve the interests of apiculture (outside the breeder's yard) if they growl a good plenty. Pages 864, 865.

DEFINITIONS AND STANDARDS OF HONEY.

It rather seems to me that the official definition of honey is better than Prof. Eaton's amendment of it. The figures of the former are to be understood as outside figures, not average ones. No objection to honey having less than 25 percent of water; but if it has more it is simply sweetened water. No objection to it having less .025 of ash; but if it has more it is to be objected to as dirty. No objection to its having less than 8 percent of sucrose; but if it has more it is a mixture of honey and sugar.

STATES' PURE FOOD LAWS.

So when most States get pure-food laws—and well enforced—the laggard States have to serve as dumping ground. Hope they'll reflect betimes. Page 867.

WHAT DESTROYS BASSWOOD BLOOM?

I think it was not the bug that Gustave Gross saw in the basswood bloom that did *most* of the mischief, but a widely spread fungous disease. Bug may have helped on somewhat. At my location basswood bloom has been more or less unhealthy for several years. Last year some of the blossom-buds were transformed into monstrosities—grew too large but never opened. Page 867.

ADDITIONS TO NECTAR-YIELDING PLANTS.

A geranium with thorns like a blackberry (were the same either wild or tame) would be quite a curiosity to me. Of course, all additions to the list of plants that produce nectar is plainly visible quantities are of some interest. Page 867.

Our Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

A Sister's Report for 1905

DEAR MISS WILSON:—I had 10 colonies, spring count, last season, and increased to 21. I took off 400 pounds of white comb honey, 50 of dark, and about 6 pounds of extracted honey, as I extracted some unfinished sections.

Three Rivers, Mich. MRS. L. MACK.

Two Sisters Continue the Bee-Business

I will let you know of our great loss, that our father, Mr. Peter Blunier, died in February, 1905. He was a bee-keeper and a reader of the American Bee Journal for years. So now my sister and I must take care of the bees and the business. DINA BLUNIER.

Roanoke, Ill.

The hearty sympathy of the sisters is extended to you in your affliction. We are glad to welcome yourself and sister to our corner, and hope to hear from you frequently.

Getting Unfinished Sections Cleaned Out

MISS WILSON:—I see on page 810 of 1905, some sister has a bad time getting the bees to take the honey out of unfinished sections. I find it very easy if it is worked right.

Take the sections all out of the super that are wanted cleaned out, and set them promiscuously in the upper story of a colony you wish to feed. If any are capped over take a knife and uncap them, and then the bees will take it all out, but not otherwise.

By arranging the sections as above described, the bees see that there is something radically wrong with the arrangement of the hive that they do not understand, and the best thing for them to do is to remove the honey, which they *always* do.

Before putting the honey in the hive turn one corner of the glazed quilt back so the bees will have free access to the upper story. W. J. YOUNG.

Scotch Ridge, Ohio.

It is quite true that bees will nearly always remove uncapped honey, although they are sometimes very, very slow about it, and arranging the sections as described by Mr. Young will hasten their doing so. But the uncapping is the very thing we want to avoid. It involves not only the labor of uncapping, but a whole lot of extra labor, taking the sections out of the supers and putting them in again. When taken from the hives in the fall a good many supers may

have only a small amount of honey in them, and yet some of that honey may be sealed. Now we do not think it worth while to disturb that super at all, only we want it emptied of all honey. When sorting our honey we like to have all sections to be emptied placed in the supers, separatored and wedged in tight, then thoroughly emptied of honey and packed away all ready to set on the hives the next season; and so far we have found only one way that we can be sure of getting this done, and that is by letting the bees rob them.

Mr. Bevins, on page 9, advises that No. 32 should have had empty combs. Although it was not mentioned on page 810 (1905), that was exactly what they had—8 extra brood-combs nearly empty; but even with this inducement the bees would not take the trouble to uncap the sections.

A Letter from a Young Sister

DEAR MISS WILSON:—Papa said that he met you at the National convention, and that you said you were anxious for short articles from the sisters.

I have been working with the bees ever since I was 13 years old, which has been 3 seasons. I will give you some of my experience.

When I first commenced to take off comb honey I was some afraid, but as I worked on I became braver, until now I am not at all afraid. The first season I took off more than 100 pounds, and did not get many stings. After I had been working an hour or two, mamma came out to see if I was getting nervous.

The next year I took off some more honey, and helped papa put up queens.

Last year, as there was not very much comb honey, I did most of the extracting with the help of two neighbor girls. They did the work in the apiary house, which was to weigh, uncap, and extract the combs, while I took them off.

I caught most of the queens to fill the orders, and my little brother, or another boy, would put the wires on the cages.

I should have said that I just worked during the summer, as I go to school 9 months of the year. Last fall I went into the high school. ELSIE STRONG.

Clarinda, Iowa.

P.S.—I write this for the benefit of timid girls who are afraid to work with the bees. E. S.

We are very glad to have the benefit of Elsie's experience, especially as her papa tells me that she is the very best help he ever had in the apiary. And here is a nice little letter from Kenneth; I am sure he, also, will soon be a great help to his papa:

LETTER FROM A LITTLE BROTHER.

DEAR MISS WILSON:—I am a little boy 7 years old. I help papa put up queens. I put the screens on the mailing cages after Elsie catches the queens. I also split smoker-wood after papa has sawed off the blocks. KENNETH.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Feeding Bees in Winter

In the South, where the weather is more or less warm and sunny during the greater part of the winter and bees can fly, it would be safe to give feed in liquid form if colonies are short of stores. In this case it would be better to heat the syrup, made of one part of best granulated sugar and one part of water. The sugar should be stirred into the boiling water and kept hot, but not boiling, stirring it continually until all is a clear liquid. I would feed it slightly warm, but not hot. It is not a good idea, however, to feed liquid syrup when bees can not fly, as cleansing flights are necessary after handling the syrup. Warm weather, too, is necessary for a certain amount of evaporation of the syrup, but the heating before being fed helps it greatly in this respect.

If the weather is so that syrup feeding is not advisable, and the bees must be supplied with stores, cakes of candy should be given. Be sure to use high-grade granulated sugar, dissolving it in boiling water. The ratio of sugar and water that suited me best for making these cakes is 4 pounds of sugar to a gallon of water. More sugar makes the cakes too dry. Boil this syrup carefully until it will harden to mold into cakes. If a little of the syrup dropped in cold water solidifies quickly it has boiled enough.

Now pour the syrup into large shallow pans of some kind, or a shallow wooden trough lined with butter, or paraffin paper, to prevent sticking. The syrup should be about 2½ inches deep so that when it has hardened it can be broken into cakes weighing about 6 pounds each. Cakes 6 inches wide and 10 inches in length will average this weight, but it is not necessary to have them in this exact shape. Pieces broken off the cake in any form and averaging about 150 cubic inches will weigh near enough to 6 pounds.

I have just made a number of oblong cakes for experiment, by pouring the hot syrup into paste-board boxes of the right dimensions for a single cake; the boxes first being lined with a sheet of butter-paper. The paper was easily peeled off after the cakes had hardened sufficiently. The boxes can be used over again several times, relining them with paper by simply placing a sheet over them and roughly pressing it down with the fingers.

In feeding, one of these cakes is to be laid carefully over the cluster of bees of each colony. If bur-combs extend over the top-bars, so much the better; but if not, then a few sticks should be laid under the cakes to allow the bees freer access to the cake from below. If no supers are on the hives empty ones can be placed on and a piece of cloth or old gunny-sacking should be packed over the top-bars and the candy cake. Where deep covers are used the supers will not be needed. In the more southern parts of the South supers are kept on the hives the entire year.

The question has been asked me several times, whether can syrup or molasses would be satisfactory for feeding purposes. I should not advocate it, not on an extensive scale, at least. It has been used by some of our farmer bee-keepers. One such case I remember last spring. The bees were starving and needed food *at once*, but there was no other sweet in the house, except cane molasses. It was about 20 miles to the nearest town, and the roads were bad. To give relief to the starving bees at once, about a pint of the syrup was given, pouring it into the combs by laying them flat over the top-bars and allowing the surplus to drip off when the combs were replaced in the hive.

Care should be taken in all feeding manipulations not to incite robbing. This molasses feeding was done later in the spring. Sugar syrup replaced the former as soon as sugar was obtained, as the molasses contains undesirable constituents that are harmful to bees. It can not be safely fed in a diluted state on account of the formation of acetic acid when thinned with water. The acid is injurious to bees and kills them.

The same trouble obtains when feeding "pelloncillos." This is an unrefined sugar manufactured in Mexico, and comes in the shape of small cones weighing about 13 ounces each. As a feed it is cheaper than cane-sugar, costing about 3½ cents per pound. Cones of this sugar are placed above the brood-nest like the candy cakes mentioned before, and the bees help themselves. These "pelloncillos" are often used by Southwest Texas bee-keepers for feeding in "off" years. It is claimed that this sugar does not stimulate brood-rearing when fed in this way. It works all right for feeding in dry localities of the country, but in damp or moist locations the sugar takes up water and the formation of acetic acid results. If syrup is made from this sugar by adding water, fermentation takes place to a certain extent, and the amount of acetic acid is so great that bees fed upon the syrup will die by the thousands. Great care should therefore be taken when feeding "pelloncillos" when the weather is not absolutely dry.

Contributed Special Articles

Some Apiarian Comments and Experiments

BY ADRIAN GETAZ.

IT IS not often that I enter into a controversy with some other writer. I think that when I have expressed my opinion, and given my reasons for such, and the "other fellow" has done the same, that ought to be the end of it. That is, as a general rule; but there are exceptions. Sometimes a glaring error, or what may seem to be so, has been made, and should be corrected. This being understood, I wish in this contribution to correct what seems to me erroneous, and also describe some experiments that may lead to very important results.

Foul Brood and Adult Bees.

In reading the report of a late convention, I was quite surprised at the assertion repeatedly made by several of our best bee-keepers, that adult bees do not contract foul brood. If the reader will turn to Cheshire's works, he will see that foul-brood bacilli have been found in the bodies of adult bees, workers and queens, chiefly in the blood. Not only Cheshire, but Prof. Harrison, and several other microscopists, have found them even in the ovaries of the queens.

We may disagree with Cheshire's or anybody else's opinions, but when competent men tell us they have seen something, there is nothing to do but to accept their assertions, at least until positive proof that they are mistaken is given.

On the other hand, it is incontestable that the disease is not transmitted by the adult bees, or at least very seldom, if at all. Cheshire explains it by saying that the disease develops rapidly, and that before any transmission can be made the diseased adult bees go out of the hive to die. It is certain that diseased bees usually leave and die away from the hives. When they do not, they are expelled. All those who have seen bee-paralysis are familiar with these facts.

In connection with this, it must be remembered that as long as the infected bee or other animal lives, the bacilli will not leave its body, except what few may be carried out with its excrements. They multiply by division. Each bacillus grows in length, and, when sufficiently long, breaks in two or more portions, each one forming a new individual. The process continues as long as there is plenty to eat. When the infected animal dies, and there is no more to eat, the bacilli break into spores, which escape by the thousands and infect whatever suitable material with which they come in contact. As the diseased bees die outside, or are carried out immediately, it is easy to see that they cannot be a serious source of infection.

Glucose and Chlorydric Acid.

In a recent issue, Prof. Eaton said that in the United States at least, glucose is no longer made with sulphuric acid, but with chlorydric acid. When the transformation is finished, carbonate of soda is added to neutralize the acid, with the result that chloride of sodium, or, to call it by its popular name, common salt, remains in the glucose.

I am not in a position to confirm or contradict the Professor's statement, but it is certainly a puzzle to me. It seems to me that the salt remaining in the glucose would give it such an abominable taste that it would preclude its use, at least for eating purposes.

Moths and Wax.

In the last edition of his excellent bee-book, Prof. Cook says that the moths do not attack the combs that have neither pollen nor dead bees, as the wax alone cannot furnish them the nitrogenous substances necessary for their development.

I am sorry to contradict, but I have had combs which had neither dead bees nor pollen, and where no brood had been reared, completely eaten up; and the moths therein grew to full size and completed their development. Moths frequently attack and ruin sections where nothing can be had but wax; they do not seem to eat the honey.

The Rietsche Comb Foundation Press.

I have not the last edition of the "A B C of Bee Culture." A correspondent writes me that a German foundation press is mentioned there, but that the editor does not recommend it, because it makes foundation with flat bottoms. There must be a mistake somewhere. None of the presses or rolls made in Europe make flat-bottom foundation. I receive regularly several European bee-papers, but I never saw the flat-bottom mentioned.

Young and Old Bees.

In one of the last numbers of the "late lamented" Western Bee Journal, Mr. Stachelhausen writes the following:

"Mr. Getaz explains his success [in preventing swarming by caging the queen] in the following way: During the four days or more without unsealed brood, the young bees having no brood to feed, take to the field notwithstanding their age or rather youngness. I am sure this idea is not based on facts. It is proven by many experiments that under no circumstances will a worker-bee fly out of the hive before she is 12 days old. If this were not so, and a young bee could become a field-bee, if not enough brood is present, the *swarming fever would never appear in any colony.*"

There are two errors in the above. The first is the assertion that a bee under 12 days of age will not fly out. That may have been so in some cases, but experiments have been made where bees only 7, 5, and in one case 4 days old, have brought in nectar and pollen. On the other hand, bees several weeks old, and even several months old, when wintered over, do the work usually allotted to the young bees when none are present.

It is therefore certain that while young bees do the inside work in preference, and the older ones the field-work, there is no absolute date or limit, all depending upon the circumstances.

The second error is the assertion that if so, the swarming fever would not appear, or, to put it in another shape, queen-cells would not be constructed. Because young bees can go to the field, there is absolutely no reason why this would prevent them from building queen-cells before taking to the field. If they *don't* build any when there is no unsealed brood, it is because they *can't*, and not because they *won't*.

Flight-Hole Above Brood-Nest.

Some years ago a Mr. Richard, a preacher at Amsterdam, took a notion to have a hive of bees. Not having any other place for them he put them in the garret. The shape of the roof was such that it became necessary to have the entrance at the top of the hive instead of the bottom. The following year the hive was taken to the country and another bought besides. The result was that the hive with the entrance at the top of the brood-nest gave three times as much surplus honey as the other. The same results were obtained the following year.

It is needless to say that a large number of apiarists began to experiment on the question. The results as far as the reports I have seen stated, are an increase from 2 to 5 times and in one case 6 times the amount of surplus honey that would be obtained with the entrance at the usual place. Only one case is on record where no increase was obtained in the supers, but considerably more than usual was stored in the brood-chamber.

The following points were ascertained:

1st. The brood-nest remains where it is; the queen does not go up in the supers.

2d. The bees manage to keep the hive, including the bottom-board, as clean as when the entrance is below.

3d. It is absolutely necessary that when the upper entrance is open, the other should be closed, and no crack of appreciable size should be permitted below the upper entrance.

These three points are correct. I have tried the system and found them to be so.

I hesitated a long time before trying the process myself. I am working for comb honey, and the European bee-keepers work for extracted honey. I was under the impression that an opening above would interfere with the building of comb in the sections. I finally tried a few hives, but instead of having the entrance opening directly outside, I had a kind of passage-way leading down to the bottom-board just in front of the other entrance. This did not work very well. The ventilation was too imperfect. At least I thought so, but I have come to the conclusion that I may have been mistaken, and that the process deserves further trial.

By that time I reflected that while Europeans work for extracted honey, they hardly ever give a full set of built combs, usually only a few, and the rest is with foundation, and

usually only starters at that. So, after all, there is not so much difference as one would think at first. So I decided to put the entrances above, opening directly outside. By that time the only flow we had last year, and a very poor one at that, came to an end, and of course that ended the experiment so far as the increase of surplus honey is concerned.

I suppose that most, if not all, of the readers of this paper know that when there is no flow, more or less bees will (at least during the warm days) go into the supers, loaf, gnaw the foundation, chink propolis anywhere and everywhere, and do more or less mischief.

I soon discovered that while there was the usual number of bees in the supers of the hives with the entrances below, there were none, or practically none, in those with the entrances above. An inspection disclosed the fact that if there were no bees in the supers, there was, on the other hand, a big, compact cluster right at the entrance; that is, inside of it. That was quite a puzzle to me.

The warm air contained in the hive has a strong tendency to go upward. To bring it down to the bottom through the combs and a mass of bees requires a large number of fanning bees and a large entrance. With the entrance above, the warm air will go out of itself, perhaps much faster than needed for the best results.

Without thinking any further, I had made the upper entrances as big, or nearly as big, as I usually make them when at the bottom of the hives. I then realized, that for the reason just given, they were entirely too large, and that those big bunches of bees were there to prevent a too free escape of the warm air needed for the brood. What is the exact size for the best results, I do not know yet.

Knoxville, Tenn.

Cellar-Wintering — Hershiser Bottom-Board

BY OREL L. HERSHISER.

MR. MORLEY PETTIT, in "Canadian Beedom" (page 904—1905), makes some criticisms of the Hershiser Combined Hive Stand and Bottom-Board, shown at the late Ontario Convention at Toronto, which should not stand unchallenged.

Is it "too much machinery to be carried under the hive"? It is a device so simple that a one-armed man or a child can make every adjustment without the least difficulty. Its construction is such that the simplicity and ease of operating it cannot in the least be affected by moisture or swelling, and it is absolutely impossible for the bees to propolize its edges or hinder its easy working. It is very strong, although the device for the 10-frame dovetail hive weighs but 8 pounds.

It enables the apiarist to have his bees practically prepared at all times for removal to or from out-apiaries, for confinement within the hive while in the cellar, or for shipment; the simple adjustment to confine the bees or admit them to flight being made at the rate of 100 colonies in less than one-half hour. Added ventilation can be given in a moment, if needed, during a heavy honey-flow, or in hiving a large swarm; and when combs are melting down, or likely to melt down, because of excessive heat, relief can be quickly afforded.

Colonies being robbed can be instantly and perfectly protected. In fact, the device is complete in itself for all purposes to which a bottom-board or a ventilating scheme below the hive-body may be put. There are no extra parts to be used for special purposes, such as blocks and wedges for

Fig. 1.—Bottom-Board—Sectional View.

giving ventilation; and no bottom-boards to be left on the summer stand or stowed away, as is necessary with most hives and practiced by nearly all apiarists who winter bees in the cellar; all such objects being perfectly comprehended in this one device. It presents to me not a single disadvantage, but its advantages are manifold. Its use to me in cellar-wintering alone, to say nothing of its convenience in moving bees, has been highly profitable.

Further and more careful observation and investigation, I believe, will convince my critic that he is all wrong in declaring that "he finds it is not practical to confine bees to the hive while in the cellar." He is doubtful as to whether "weak colonies and nuclei *may* be confined without serious loss." I have no doubts on these points, having proven the practicability of such wintering, in my own case, *beyond any doubt*. And, further, the confining of strong colonies is as practical as it is with weak colonies or nuclei, as proven by my experience.

I desire to take an exception to the statement that "when strong colonies are so confined there are sure to be some bees that fly to the screen, try to get out, and make noise enough

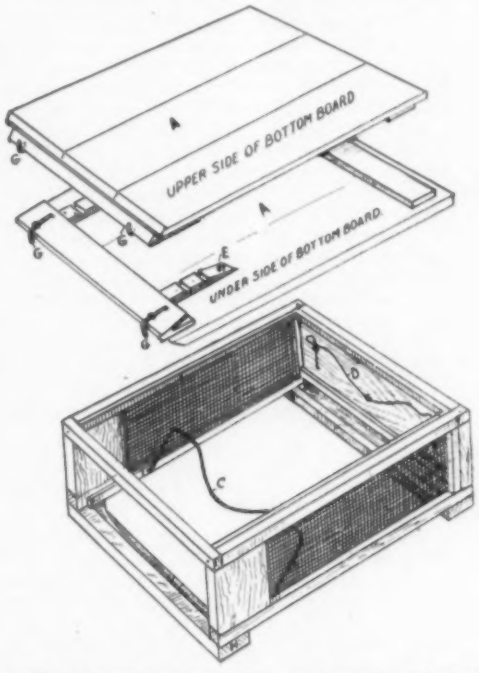

Fig. 2.—Hershiser Hive-Stand—Bottom-Board Detached—Patent Applied For.

to rouse the whole cellar.' Mr. Pettit's bees may behave in this unseemly fashion, i. e., all want to go out because one or a few individual bees have asked that privilege. My bees behave properly and attend strictly to the business of wintering quietly, and, if once in a while a stray bee leaves the cluster and buzzes a bit, very likely for some good and sufficient reason, they do not all fall to and do the same. They are so accustomed to humming and buzzing that such sounds have ceased to irritate them. To be sure, they hum and buzz if they get too warm, and would undoubtedly go in search of cool air if allowed their liberty, but they become quiet and contented as soon as such need is supplied.

If the temperature of the cellar becomes too warm, the more sensitive colonies will be the first to show it by their activity; and in case of such unsatisfactory conditions there is no doubt that the colonies first aroused would have a tendency to hasten the awakening of those in a deeper state of repose. In such an emergency, if the bees are properly confined to their hives, it is a positive advantage, as otherwise many strong and vigorous bees would perish on the cellar floor, or at the windows, if there was a ray of light. But where temperature and ventilation are satisfactory the mere buzzing of a few restless bees, now and then, will not "rouse the whole cellar" or cause unusual activity.

Disturbances occasioned by insufficient or impure air or high temperature, are not likely to occur in the cellar or repository specially constructed or fitted for the purpose of wintering bees; but, even in these, disastrous failure has sometimes been the result. Such failures are probably more frequent than most of us imagine, for the reason that people take little pride in recounting mistakes or disasters, but occasionally one who has learned wisdom with passing years becomes reminiscent, as did Harry Lathrop, of Wisconsin, where he recalls a case in his own experience of 35 good, strong colonies placed in a specially built repository about Dec. 1. About Jan. 15 following, the door was opened, and in one of the upper front corners of the room was a bunch of bees about the size of a bushel basket, and upon the floor was about an inch in depth of dead bees. The live bees were divided as well as possible and their wintering was finished in clamps outside. Fifteen weak colonies in the spring was the result. Want of air was ascribed as the cause of the

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death of the bees. Possibly such was the case, but I am strongly of the opinion that, having deserted their hives, food was not within their reach, and starvation was the immediate cause of the death of such an unusual number of bees. If his visit to the bees had been delayed 2 or 3 days longer all would have been dead. If each colony had been confined within the limits of its own hive, with the proper amount of room beneath the frames, well ventilated, there seems to me no reason why each colony should not have survived, just as did the large bunch of bees in one of the upper front corners of the room.

The bottom-board under mention was made especially to meet my personal requirements. All my apiaries are away from home. There is a good cellar under my dwelling-house, but the constant use to which it is put during the winter months precludes keeping it dark, and it is impracticable to keep it at an even temperature. No difficulty in keeping it from the freezing point, but in very cold weather a hot fire must be kept in the furnace to heat the house. When moderate weather comes, especially if it comes suddenly, there is too much heat in the cellar for orthodox wintering. Barring the uneven temperature, the cellar is about ideal. The necessity of bringing the bees from out-apiaries at the very time they must be placed in the cellar, and the peculiar conditions of the latter, were the factors which called for correspondingly peculiar construction to confine the bees while in the cellar and in moving them. After the disastrous winter of 1903-4, in which I lost heavily, having wintered almost entirely outdoors, I determined not to risk all of them in that way again. Hence the evolution of a device to meet my requirements.

On Dec. 4, 1905, I commenced at 9:30 o'clock in the forenoon and by 12 o'clock I had closed the hives (by means of my bottom-boards) of 88 colonies of bees, and hauled them in two sleighloads a distance of ¾ miles, carrying them a distance of 75 feet to the cellar door. By 3 o'clock in the afternoon I had them safely placed in the cellar, all with the assistance of one man all the time and a boy teamster and his team in the forenoon. The weather was about at the freezing point, and a few live bees dropped on the floor-boards. After the bees were placed in the cellar a brisk fire in the furnace soon raised the temperature to a point which enabled every live bee to regain the cluster in its hive.

Last winter I made my first experiment in wintering bees, in considerable numbers, confined in their hives, although I had tried it in a small way the winter previous. One hundred and thirty-five colonies were placed in the cellar, confined as described. Four-fifths or more of the colonies were nuclei, occupying from 3 to 5 Langstroth frames. They could not have been wintered outdoors. Many of them were deficient in stores, probably ¼ of them having less than 16 pounds each. They had been fed up late in the season on sugar syrup. The average loss in weight per colony, in wintering, was a little in excess of 7 pounds for 4 months' confinement. My winter loss from this lot was 2 colonies which died of starvation, and a few that swarmed out and joined other colonies, which was due to the folly of putting bees out when it is so warm as it was here on March 28, the thermometer registering 78 degrees. The strength of the weak as compared with the strong colonies in the spring was as nearly in proportion to their strength the fall previous as

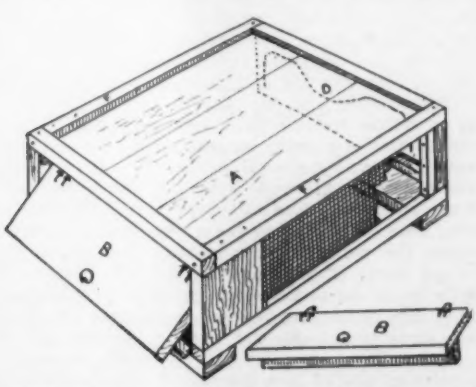


Fig. 3.—Hershiser's Bottom-Board and Hive as Prepared for Summer.

could be estimated, the full colonies being correspondingly stronger than the nuclei. This lot of weak colonies wintered at least 15 percent. better than the strong colonies left outdoors, and consumed not more than half as much stores per colony. All colonies wintered outside were in first-class condition in the fall, with 25 pounds and upwards of stores per colony, and well packed and protected.

While absent at the late Chicago convention the furnace became defective, and it was impossible to control the heat until repairs were made. The excessive heat, resulting from

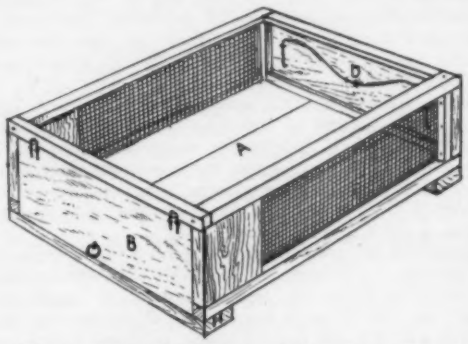


Fig. 4.—Hive-Stand as Adapted for Cellar Use.

too strong a draft, caused the bees to roar and clamor for liberty as though it were summer, but all to no purpose; each colony was safely confined within its own hive. It can easily be guessed what the consequences would have been if the bees had been able to escape from their hives. My loss would have been practically 146 colonies of bees—the number in the cellar. After repairs had been made on the furnace and better conditions obtained, the bees quieted down to their normal condition, apparently none the worse for their unwonted activity, except 3 colonies which persisted in "keeping up the music." A few bees in these, with distended abdomens, are running about the screen sides of the bottom-board, but the number diminishes daily, and I anticipate that when they have expired, as they surely will in a few days, these colonies will also be in a normal condition, as they really are now, except the few restless bees. The colonies both above and below and all around the restless ones are perfectly normal, the quiet yellow cluster of bees hanging between and below the frames, telling the story of comfort and perfect wintering.

The above observations, in my own experience, prove to me conclusively that if bees of one or more colonies should buzz about the wire-screen sides of the bottom-board, in an effort to escape, the noise will not materially disturb other colonies, much less will it "rouse the whole cellar." That when bees are properly confined to their hives, having all needed ventilation, if, from a rise in the temperature all the colonies become aroused, they will return to their normal winter condition, when the proper temperature is restored, without serious consequences; whereas, if not so confined, the loss of bees by becoming disengaged from the hive and lost on the cellar floor or otherwise, would be enormous. To me the carrying of so trifling an amount of machinery under the hive has been advantageous and profitable. To be without it would, in my case, be extravagance. Buffalo, N. Y.

A Successfl Home-Made Hive

BY A. : LATHAM.

TOO often in making his own hives the bee-keeper tries to pattern them after those sold by the manufacturers, and consequently finds that it does not pay to buy good lumber, saw it by hand, and make a hive costing little less than a better one sold by the manufacturers. Nor does it pay to make that style of hive out of cheap lumber—a dressmaker might as well construct a dress from home-spun on a pattern designed for silk goods. Yet everyone knows that a good, serviceable dress can be made from home-spun, and one which is possibly even better for ordinary wear than the silk one. It is my purpose to tell the readers of the American Bee Journal how a bee-hive can be formed from the cheapest kind of lumber, and yet be a better hive for actual use than the factory-made hive.

This hive which I am about to describe is not handsome to look at, for its beauty lies deep and is the more appreciated the longer the hive is used. It is a hive excellent for winter as well as for summer.

To construct this hive a good roofing paper is necessary. Having used with great success that brand known as "Paroid"—a paper which is advertised in the American Bee Journal—I shall make occasional mention of that name and also shall

speak of the other paper made by the same firm, a tough red paper called "Neponset." This latter paper I use in the interior of the hive, the "Paroid" being used externally.

A roll of "Paroid," one of "Neponset," plenty of assorted nails, some good tacks, and a large quantity of grocery-boxes, shoe-cases, and hat-cases are the materials needed to construct a score or more of excellent hives—the tools required being a cross-cut saw (not over 20 inches long), a small rip-saw, a small plane, a try-square, a light hammer, a strong screw-driver or old chisel, a jack-knife, and a yard-stick. Let the tools be good ones, for it pays to use good tools.

If one is fortunate enough to have a shop with work-bench, so much the better; but good work can be done with a large dry-goods box for a bench and a smaller box to do one's sawing on.

The shoe-cases, etc., are taken apart with screw-driver and hammer (this hammer should be of the best grade with a claw which will pull a headless nail). The grocery-boxes are not all taken apart, as some are to serve as the foundation structure for hive-bodies and supers.

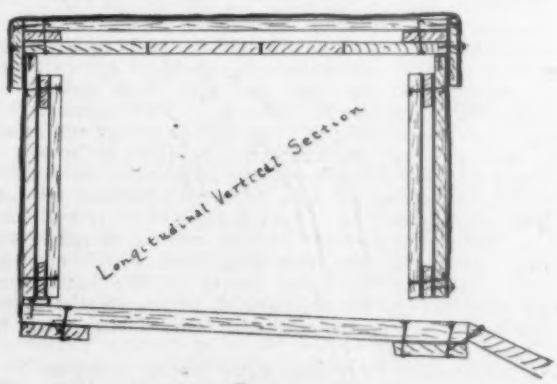
Careful selection of boxes, and thorough preparation go far toward assuring success in this hive-making undertaking, for one may otherwise become disgusted at the beginning and give up because of numerous though trifling difficulties. It is tiresome—that is, slow—work constructing the first hive; but one soon gets familiar with the different steps, and can turn out from 3 to 8 hives per day, according to his skill and energy.

The numerous cereals sold nowadays furnish such a variety of boxes that one ought to find just what he needs at the various grocery stores. After once deciding on a box he should persuade the different grocers to reserve that particular box for him. In this way one can get together a hundred or more boxes all of a size and shape.

The Modus Operandi.

Select a box which is 1¾ inches longer and 1¾ wider than the inside measure of your hive-body. If just the right size box cannot be had, select that which will require the least cutting down.

Remove the top and bottom of this box and cut down if necessary. It is not much of a task to cut a box down. In case it is too long the entire end is cut off and the end-piece again nailed in place, after, of course, removing the sawed-off bits of boards and the nails. If the box is too wide, one side is knocked off and the two end-pieces are sawed to the right length and the side again nailed in place. If the box is too deep, the rip-saw quickly takes off the right amount, care being first taken that any obstructing nails are previously removed. A little planing completes the task. A trifle over 5 minutes will serve to cut down a box to the right size. You will then have a hive-body of thinner material and longer and wider than the regular hive-body. Cut out pieces of "Neponset" or other good sheathing paper to fit the inside walls of this body. Then get out four strips of half-inch stuff not less than one inch wide, of a length equal to the inside length of the hive-body. Nail these strips over the paper on the side-walls flush with the top and bottom edges. Then lay two more pieces of the "Neponset" over these strips. Previous to this you



may have prepared a large number of pieces from your box-board materials of a length equalling the depth of the hive-body. Cover the second piece of paper with a sheathing of these boards, nailing near the ends so that the nails go through the strips between the papers, and with nails that will reach through to be *clinched*. This clinching is absolutely necessary.

You will then have a body with side-walls made up of two thicknesses of wood, two of paper, and one dead-air space.

The ends are then to be finished like the sides, except that the upper strip is lowered away from the edge and the inner wall is made shorter to allow a rabbet on which to support the frames. If cross-wise frames are used (a much better arrangement, by the way), the side-walls must be thus prepared instead of the ends.

The varying thicknesses of the box-boards used will bring about a variation in the inside measurements of the hive-body when completed. This difficulty is easily overcome by laying

strips of the roofing paper on the board strips which border the air-spaces, or by selecting different thicknesses when these board strips are got out. If the original box is only a fraction of an inch out of the way in its measurements it is not necessary to cut it down, since the difficulty can be remedied in the manner just suggested.

At this stage of construction you will have a hive-body of great strength and exceedingly warm and protecting in character, but it itself will require protection from the elements.

You will now measure the perimeter of the hive-body and cut from the "Paroid" roll a strip which will go around this body and lap 2 inches, and with a width about 1½ inches greater than the depth of the body. This strip is put on with the lap-seam well cemented, and with the upper edge projecting ½ inch. This projecting edge is turned in over the edge of the hive-body and tacked vertically. This turning in is to allow the supers and covers to telescope on without tearing down the edge of the paper.

The lower edge will also project and will thus overlap the joint between the hive-body and the bottom-board, except that it is to be cut away above the entrance. Nails and tins come with the rolls of paper, also a can of cement, and a row of tins should be closely nailed along the edge over the entrance. Two or three tins nailed along each of the remaining bottom edges, and along the seam, will be all the fastening the paper will require. It will naturally bulge slightly away from the walls and thus furnish another air-space.

You will observe that the hive-body has been made without entrance, for the bottom-board will supply this. Make the bottom-board from the heavier stock which is found in the ends of the shoe-cases. Make it longer if you wish than the hive-body, but of just the width. Along the edges above nail two wedge-shaped pieces on the sides and a strip a bee-space thick along the back. The side-pieces should be an inch thick in front and at the back the thickness of the back-piece. When the hive is placed on this bottom there will be an entrance the width of the hive and one inch deep. All tilting forward of the hive will be done away with, since the bottom itself is tilted or slanting forward. The absurd custom of tilting hives forward should not be tolerated in any upright bee-yard.

For a cover one can use the cheapest and worst pieces in the whole lumber-pile. He will make the cover of two thicknesses and preferably with an air-space, letting one layer of boards be parallel with the sides, another parallel with the ends. This cover should be made half an inch larger each way than the body, and a strip should be nailed all around and projecting so as to telescope over the hive-body. Then a piece of "Paroid" is cut about 6 inches larger each way than the cover, and this is laid over the cover, and the sides turned down. All nailing is done on the sides, leaving the top a perfect roof. Such a cover is proof against wind, rain, and sun.

For a super it is best to follow the plan of the hive-body except as to air-space. Leaving out the air-space will allow more room for the section-case. This plan admits of the use of light section-cases protected by an outer super, a method entirely up-to-date. The frequent moving of the super would soon destroy the paper projecting beyond the lower edge, and the "Paroid" strip is therefore cut narrower. Strips of wood

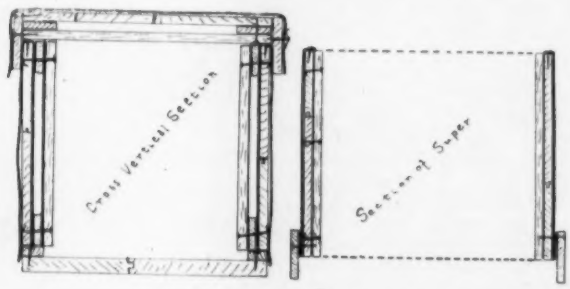
are securely nailed about the lower edge of the super so that it will telescope after the manner of the cover. Strips of paper are laid under these wooden strips so that supers of the same size can be tiered up without too tight a fit.

CUTTING THE PAPER.

Unless one is used to cutting roofing or sheathing paper he will make a poor pass at it. I find the following plan excellent:

Select several straight-edged wooden strips, two of which are over 3 feet long. Lay these two parallel and about ⅛ of an inch apart, and fasten them together securely by means of cleats put across the under side. Then from near either end extend a strip at right angles and nail firmly, these strips being a trifle over 3 feet apart. Measure from the space between the two first-mentioned strips and on the other two cut notches according to the widths which you wish to cut the paper. Unroll the paper and slip the contrivance under the paper so that it will lie between the two last-mentioned strips, and bring the end to the desired notch. Then flattening down the paper, run the small blade of a knife along the narrow space between the two first-mentioned strips. It works to a charm.

In the case of "Paroid" the knife is apt to "gum" up If the cutting space is made with bevelled edges so that the knife-blade can be leaned to one side, much easier cutting will result. This bevel cut seems to allow the cut paper to lift off the knife so that the knife runs with much greater ease; otherwise the knife will drag and make a ragged edge. Never attempt to cut these papers by laying them on a smooth surface and running a knife-point along a straight edge. Always cut with full blade while the paper overhangs the straight edge.



It has not been easy to explain with sufficient clearness the full procedure in a single article, and I have supplied a few diagrams to make the whole matter perfectly clear.

One can, if he has the use of a circular saw, make frames and full inside furniture for this hive, but without proper machinery he will do better to buy frames and section-cases in the flat ready to nail.

I am fully persuaded that any one who will give this hive a trial will declare it highly satisfactory; and, even though the hive as a whole be not adopted, every one would do well to adopt the cover herein described. A cover protected with either "Paroid" or "Neponset" is far and away ahead of an all-wood cover.

With these hives one needs to do little to prepare his colonies for winter, for all that is necessary is to place an empty super on the hive and in this a bag of sawdust or other absorbent and leave the entrance wholly open, only shutting out mice by means of a wire-netting 3 meshes to the inch. An entrance thus large, one inch by the width of the hive, is perfectly safe, and is much better than a small one to insure good wintering. Finally, the dark paper, "Paroid," gets warm every sunny day in winter, and thus keeps the inside of the hive dry and sweet—a necessary factor in successful wintering of bees. The large entrance—there being no upward ventilation—gives ample opportunity for escape of foul air and moisture.

Last but not least, the hive which I have described costs but 50 cents.

Norwich, Conn.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.

Convention Proceedings

Report of the Ontario Convention

(Continued from page 50.)

SYSTEMATIC ADVERTISING AND MARKETING OF HONEY

The marketing of honey, like the marketing of any other kind of produce, is a simple matter once you have a certain line of customers, and the reputation for a good article; but for the beginner, or the producer who is a long distance from the principal markets, the question is often more troublesome than the production of the article. Of course, it is easy to sell honey if you put the price low enough, or take about any price that is offered, but selling a No. 1 article of honey in this way is very unsatisfactory, because it is unprofitable, and the producer should receive value for his time and labor.

I may not be able to add very much to what is already known on this subject, but I want to emphasize a few points on "creating a market for honey" as they occur to me, and perhaps this may bring out a little discussion.

To advertise honey one cannot go about it in the same way as to advertise any special food product, for the simple reason that honey or nectar is a name for a sweet gathered by bees from the nectaries of flowers. Of course, the bee-keeper might advertise clover, linden, buckwheat or other varieties of honey—these are general terms that any producer may use—but one cannot get up a fancy name for honey like the manufacturers of canned goods or breakfast foods.

The best form of advertisement I have found is a pleased customer, and the best way to get and keep the customer is to supply a No. 1 article of honey at a fair price, no matter whether at wholesale or retail.

One might properly ask, How can we secure the customers? One plan is to canvass the surrounding country, or, if you have not time for this, an assistant might be engaged who would sell on commission; but go yourself, if possible.

It is wonderful how many farmers will buy honey when it is brought to their notice.

Talk it up. A buyer likes to talk to a producer who can speak of the goods he has to sell as if he understood them.

Many bee-keepers make the mistake of sending their goods to the large cities that are perhaps already overstocked, when with a little inquiry there is already a market in the surrounding villages and country.

Another plan is to make an exhibit at the township or county fair. It may be argued that the premiums offered do not make it worth while, but here is an opportunity to become interested in the local agricultural society, attend their meetings, and give them pointers when revising the prize list for honey. I have found that the directors are generally willing to encourage an exhibitor who will put up an attractive exhibit of honey. The ordinary exhibit of honey at the local fairs only calls for 5 to 10 pounds, and attracts no more attention than a can of fruit or pickles. Just try what an effect it will have to put up 100 or 200 pounds of comb and extracted honey, in clean white cases, and clear glass jars, with a sign above it stating it was from the apiary of the local apiarist. Many who have never thought of honey will be attracted by its beautiful appearance, and remark that they would like some of it.

Demonstrate your honey by giving samples to prospective buyers, and have a supply to draw from, put up in different sizes of cases, jars, and pails, neatly labeled, giving your name and address. Small packages may be disposed of in this way that will, if the honey is good, bring inquiries for larger quantities.

If possible take a long and observatory hive of bees; it is a great attraction, and never fails to draw the attention of the crowd to your exhibit of honey.

Call on the local dealers at regular intervals with a

supply of honey in packages of various sizes to suit their class of trade. Do not press too large a quantity on them at one time. No up-to-date grocer likes to see a quantity of fly-spotted packages on the shelves, but would rather buy in small quantities, and have them clean and fresh. If you have more than enough honey to supply the local demand, do not make the mistake of putting it up in what I have heard a wholesale grocer term "homespun packages." See that the sections are free from propolis, properly graded and cased, and the extracted honey put up in well-made cans. Nothing disgusts the commission man or dealer worse than to have a consignment of honey shipped to him with the sections unclean and ungraded, with perhaps both cases and cans leaking badly, to which dust will adhere and spoil its appearance, making it so much more difficult to obtain the best prices.

By the accounts we read in the United States bee-papers, many of the markets there for honey are very dull, with slow sales and low prices. This is a discouraging state of affairs when nearly every other article of food has a good demand at higher prices, and this, too, at a time when the demand for luxuries was never so great. It is not that the people do not like or want honey, it is mainly owing to many silly stories published in the newspapers and magazines; they have, to some extent, lost confidence in honey as an article of food. Lax enforcement of the pure food laws is another cause for its decreased consumption. Happily, in Canada, we have comparatively little adulteration, and, although there is still room for improvement, the demand and use of honey have enormously increased during the past few years, and will continue to increase as its value becomes better known.

R. H. SMITH.

G. A. Deadman—The market is limited in the country, but farmers buy in large quantities when they do buy. The best way to work up a retail market is to send out samples. Druggists sell patent medicines in large quantities that way. Distribute honey in small dishes and give a circular with each dish. They will eat the honey and read the circular. Then call next day for the dish and the order. Be sure to ask the retail price, not the wholesale, so the merchant will have a chance too. Sampling a town is in the end cheaper and more satisfactory than advertising in the papers. Educate people as to the different qualities of honey.

J. W. Sparling thought honey never could become a staple food like meat, because it is a sweet; and people tire of it.

R. H. Smith—It is very important to see that the honey sold is always of the best quality, well ripened, etc. Bee-keepers should watch the groceries in their home towns all the time for adulterated honey. Send suspected samples and have them analyzed. The dealers are always glad to be informed when adulterated honey has been sold them, and by this means bee-keepers can keep it out of the market. Then we should teach people that honey is a concentrated food, and should not be eaten in large quantities.

Mr. Pickett—Produce a good article, put your name on it, and have an honest man to handle it.

EXPERIMENTS ON HONEY GRANULATION AND FLAVORS, AND BLEACHING WAX.

Prof. F. T. Shutt, of the Central Experimental Farm, Ottawa, described experiments on the granulation of honey and in clarifying wax. He had raised samples of honey to temperatures of 122 degrees, F., and 158 degrees, F., and found that in either case they had remained liquid since Sept 1st, when the heating was done; while honey which had not been so heated was granulated quite hard. He found that keeping in light or darkness, or cold storage, seemed to have no effect on the granulation of honey. Also that agitation, or the addition of crystallization points did not seem to affect the granulation. This in spite of much evidence among practical bee-keepers to the contrary. The honey kept in the light, whether granulated or liquid, was quite perceptibly bleached in color, and seemed to have lost in flavor.

With reference to flavor, Prof. Shutt had learned that heating honey to a high temperature certainly injures the flavor. He explained this by the fact that neither the levulose nor the glucose give honey its flavor, but certain minute quantities of undetermined volatile oils which can and do at a high temperature escape.

With reference to bleaching wax, Prof. Shutt had made exhaustive experiments, and found that 1 percent. nitric acid gave best results. To bleach without chemicals, melt the wax in warm water, pour off the water, and repeat the operation several times. Then shred the wax and expose to a damp atmosphere and sunlight. Sulphuric acid should not be used more than 5 percent. strong. Hydrogen peroxide gives wax a good color. The texture can be brought back to wax by heating and cooling slowly. It should never boil.

Prof. Shutt gave two sources of honey-dew: 1. It exudes in drops from the leaves of trees in a moist atmosphere. 2. Aphides extract sweet from leaves, and it exudes from their bodies.

Mr. Holtermann—Granulation may be hastened by agitation, if we stir the honey after it begins to granulate slightly.

J. B. Hall—Honey taken to the exhibition and back granulates more quickly than that which was left at home.

PRODUCTION AND CARE OF COMB HONEY.

Mr. R. Lowey read a paper on "Production and Care of Comb Honey."

In opening the discussion, Morley Pettit said he found it a great advantage to hive on frames with foundation starters instead of drawn combs, for comb honey, for with the latter the colony was sure to swarm again in a short time. He found the principal danger from moths was caused by the presence of pollen in the sections. He had had experience in producing and handling comb honey covering 15 years, and had never fumigated nor had any complaint from buyers on account of moths. This was due to care in excluding pollen from the sections. Any odd cells of exposed pollen were always daubed with fresh honey on the end of a match.

W. Z. Hutchinson had experimented by hiving first a swarm on drawn combs, another on full sheets of foundation, and another on starters. The result was always in favor of hiving on starters.

O. L. Hershiser always puts the new super on top of the one already on, and when the first is filled he takes it off.

Mr. Hutchinson—When the bees in their building comb in the brood-chamber get ahead of the queen in her laying, they immediately start to build drone-comb. So if young, energetic queens are used, 80 percent. of the comb built from starters will be worker-comb.

Mr. Holtermann—Making the bees uncomfortable by contracting the brood-chamber induces the building of drone-comb.

BEST SMOKER AND FUEL.

QUES.—What is the best smoker and fuel?

W. J. Brown—The Corneil smoker.

Mr. Holtermann—The R. H. Smith smoker gives best satisfaction. Have it made with extra-length barrel.

Mr. Lowey—The best fuel is thin bark from second-growth pine, broken up. It makes very little ash.

Mr. Pettit—Cedar-bark from the largest cedar-logs you can find. The bark is very thick and full of resin.

Mr. Holtermann—Dampen the bark slightly. It will hold fire better, and not blaze up and burn out so quickly.

SECOND DAY—THURSDAY MORNING.

On the subject, "Are Amendments Needed to the Foul Brood Act?" Mr. F. J. Miller read the following:

AMENDMENTS TO THE FOUL BROOD ACT.

I fully hope that each one present will not expect much convincing proof from this short paper, and this will save disappointment.

The subject, "Amendments to the Foul Brood Act," is one that has received considerable discussion at different times, and, generally speaking, I believe the meaning of the Act not to be far astray.

As to one inspector being able to carry out the work to the best satisfaction of this Association, I am not so certain. It appears to me there should be three good men under the direction of this Association, each responsible for a given district, from which he would not be too far distant, so that the traveling expenses might be reduced as much as possible; also this would enable more work to be done during the short period of our honey-flows. These are matters in which we are all interested, but each having somewhat different views on the subject.

Some have advocated County inspection. This I believe to be jumping to the extreme, and not to be in the

best interests of bee-keepers—in fact, to be impracticable. There are few counties having well-organized associations that could carry on the work; others would suffer. Again, this Association would find it very difficult—I may say, impossible—to control the work through so many inspectors. The funds at their disposal would not warrant opening the way for so many leakages as would occur.

Therefore, I am of the opinion that three inspectors, each responsible direct to this Association for the work to be accomplished, would give better results than either the present system, or the one of the County inspection, bringing greater harmony into the work of the Association.

F. J. MILLER.

Prof. Harrison—These are the two possible extremes. The one which we now have of only one inspector for the Province—a system entirely inadequate to the requirements of the case; and the other of County inspectors, which is at present altogether too much to expect. The counties have not organizations, nor competent men, nor sufficient funds, nor would the Government grant the money at present.

One thing Prof. Harrison emphasized: That is, when an association is shown to be using to the best advantage the funds it has, the Government is more than willing to increase its grant. There is an impression in the department that this Association is not doing all it should do for the country. So we must go slowly in our requests until we are doing better work. Personally, he thought a well-organized county could help defray the expenses and have its own inspectors, in time; but for the present the three Provincial inspectors would be better. This was a step in the right direction, as the work would be done more reasonably than at present.

J. D. Evans—In order to get rid of the disease every hive in the Province should be inspected. At present it costs seven or eight dollars per apiary. With local inspectors much of the traveling expenses could be saved. It is a serious matter, as judging by the inspector's annual report there is no decrease in the number of infected apiaries.

Prof. Harrison proposed, and after long discussion the convention adopted, amendments to the Foul Brood Act, by which the Province should be divided into three districts, with a competent inspector of apiaries for each.

Sec. W. Couse, and others, thought each of the twelve districts should organize, and each have an inspector, and that twelve inspectors could inspect much more thoroughly, and would save expense by working near home, and doing the work in fruit-bloom, when colonies of bees are not populous and are easily inspected. However, as Prof. Harrison pointed out, we could not hope to jump from the extreme of having one inspector, to the other extreme of having twelve inspectors. That might come later.

EXPERIMENTS AT CENTRAL EXPERIMENT FARM, OTTAWA.

MR. SIBBALD'S PLAN OF PREVENTING SWARMING.

For the test 6 colonies of bees in 8-frame Langstroth hives were selected, weighing on an average 48½ pounds each. All were examined for swarming. June 10 there was no sign of swarming. At that date each colony had abundance of brood and a considerable amount of new honey. June 15 they were again examined; 3 colonies were found preparing to swarm. Those 3 colonies were set off their old stands a little to one side, and new hives were placed on the old stands thus left vacant. The new hives each contained 2 empty combs and 5 empty frames with 2-inch starters of foundation.

The next operation, one frame of brood with queen-cells on it, is taken from the old colony that had been set to one side (making sure that we did not get the queen), and placed with the adhering bees in the hive between the 2 empty combs. The extracting supers that had previously been removed from the old colony is placed, with all the bees it contains, on the new hive.

June 19 a second examination was made. One more colony was preparing to swarm; this one was treated the same as the former. The old colonies that had been manipulated were examined, and all queen-cells were found to be destroyed. The old colonies were then placed on their original stands, removing the one frame of brood from the new hive, destroying all queen-cells on it, and placing it in the old colony. Any bees that remained on the starters were transferred to the old colony. The extracting super was then taken off, and the new hive was again placed on the old colony along with the bees it contained, making one very strong colony.

The fourth colony that was found preparing to swarm was treated after 4 days the same as the 3 former colonies. The 2 other colonies did not swarm during the season. At the close of the season we had 6 very strong colonies, with plenty of stores for winter, and 468 pounds of extracted honey.

FORCED OR SHAKEN SWARMS—MR. PETTIT'S PLAN.

For this test 6 colonies of bees in 8-frame Langstroth hives were selected, weighing 49¾ pounds each. Examined on June 10, they showed no sign of swarming; there was abundance of brood and considerable new honey. June 15 a second examination was made; 4 colonies in this row were preparing to swarm.

Hives previously prepared for swarms each contained in the order named—2 dummies, one starter, one worker, 2 starters and 2 dummies—8 in all. One of these brought and set on a stand directly behind the hive to be treated. The operator removes the 2 dummies from the right or further side of the new hive, and shoves over the remaining contents so as to leave the empty space next to the hive. The combs nearest to the operator are lifted from the brood-chamber, and shaken almost free of bees, and placed in the new hive next the left wall. The next comb has a double space for shaking off in the old hive. It takes its place beside the first, and the return motion of the hand carries the dummy from the new hive to the old one.

Comb No. 3 is shaken, carried to the new hive, and dummy No. 2 is brought back. The fourth comb exchanges with the first starter, and so on. When the 8th comb has been shaken in its own hive and transferred to the new, the old hive is filled out with the remaining dummies. We then put supers on again, close the hive, and the bees have been "swarmed." The 2 remaining colonies did not swarm during the season.

On the 7th day after shaking, the 4 old colonies were removed to another location. Most of the bees that were flying went with the "shook" swarm, leaving the old colony so weak that it did not have any inclination to swarm, and only stored sufficient honey to carry them over winter.

At the close of the season, from this test we had 10 colonies and 432 pounds of extracted honey.

JOHN FIXTER.

W. A. Chrysler said he had tried Mr. Sibbald's plan, and found it all right, if no increase is desired. He considered Canada should have a text-book of bee-keeping, that the results of Mr. Fixter's experiments, along with the other useful information on bees, should be collected and bound.

Morley Pettit considered he had outgrown the system described by Mr. Fixter. He would not use "shook" swarming for extracted honey at all, but by a system of prevention rather than cure hold the colonies together so they would not swarm but devote their energies to the production of honey.

R H. Smith, from 167 colonies, spring count, took 25,000 sections of honey, and increased to 185 colonies.

Ed Dickenson—Put empty combs, one comb with queen-cell and brood, in the new hive on the old stand, and set the old hive to one side. Then in a few days set the old hive to the other side, and all the cells will be destroyed. Then set the old hive back on the old stand and raise the honey stored in the new hive to the super. This gives no increase, and swarming is broken up.

WHAT CAN BE DONE TO MAKE THE ASSOCIATION MORE USEFUL TO BEE-KEEPERS.

Our Secretary has given me rather a difficult and delicate mission in asking me to take the pulse and temperature, as it were, and prescribe for this august Association. No doubt the patient will take the medicine kindly, and the members will suggest many other remedies which have not occurred to me.

In forming and carrying on an association the first thing to consider is the aim of the association—its excuse for existence. While I have not seen in the by-laws the object of the Ontario Bee-Keepers' Association, I consider it is, or should be, broadly, "the advancement of the bee-

keeping interests of this Province." This is effected, first, by an annual convention where the members meet, and, face to face, discuss and exchange ideas on both the practical and the business side of bee-keeping.

Second, by the continual and persistent effort of the directors and officers to develop bee-keeping as a business, and overcome the obstacles in its way. In the years that I have been a member of this Association, I find a certain lack of business methods, a failure on the part of members to take the Association and its mission seriously. The conventions are looked upon too much as social gatherings, owing largely to the fact that, with many, bee-keeping is treated as a side-line, whose profits are very much of a bonus—almost clear profit. With them the convention is an outing, where acquaintances are formed which ripen into friendships, lasting and good. But the business-end of the convention, which should be foremost, is overruled, sessions are delayed in starting by the non-appearance of officers and members. Discussions often become prolonged and pointless so that the time of the convention, which, at a very low estimate on the expenses incurred by members, worth ten or fifteen dollars an hour, is ruthlessly wasted.

Another point, which is more delicate to touch upon, yet is vital to the good work of the Association, is the fear which most of us have, to a greater or lesser degree, that some one's feelings may be hurt—either our own or those of some friend. Can we not rise above this, and as sensible business men drop bickerings and personal preferences, and petty animosities, and toughen up tender skins, and study what is best for the Association as a whole?

What can this Association do for the advancement of bee-keeping in Ontario? Something has been done in the way of advertising Canadian honey at the great fairs and exhibitions. The Honey Exchange Committee is doing a good work in collecting crop reports and giving a sort of weatherman's forecast prices. Good literature is provided the members in the form of the Canadian Bee Journal. The transportation committee is battling with the problem of better freight and express rates on honey, bees, etc. Something has been done in the way of legislation against the adulteration of honey, and for the checking of disease among bees.

As to how the Foul Brood Act is being carried out, I shall leave to others on the program better versed in the subject than I. We have also an annual Government grant of money, but is there not room for more to be done in this line? Other branches of agriculture are receiving strong Government support in the way of opening up markets, and the proper grading and distribution of products. How about honey markets, and the grading of honey? Fruit, dairy products, etc., must be inspected by a qualified Government official before going on the market. Honey can be shipped in any careless form, and the careful shipper must take a share of the consequences. Other lines are put to the front, bee-keeping is crowded back. Poultry-keeping, fruit-growing and flower-culture are considered dignified occupations; bee-keeping is a *joke*. We are "bee-men" or "honey-men"—spoken with a smile. Why should this be? Wherein does the remedy lie? In ourselves. I find bee-keeping taken more seriously in some parts of the country than others. I attribute the difference to the attitude of the bee-keepers themselves. Self-confidence and ability inspire the confidence of others. But we need the help of the power that is helping others along—are we using the help we already have to the best advantage?

We already receive a considerable amount of money from the Government. A large portion of it goes to defray the expenses of the directors while attending the regular conventions of the Association. More of it goes to the local associations, and is used by them to send delegates to the convention. Is this the best way in which the money can be used for the advancement of bee-keeping? If the directors work earnestly during the year to organize and enlighten the bee-keepers of their respective districts, and to increase the profits of our business, and come prepared to report progress at the convention; if the delegates seek to promote the interests of their respective associations while at the convention, and go home filled with practical ideas for the benefit of those who sent them, it is well. But why this double expense? Why not let the local associations be district associations, and let each district association appoint its delegate to the Provincial convention? This delegate being the representative of his district should become the director for that district of the Ontario Association. He—if he truly and conscientiously represents the association sending him—should be entitled to his expenses at the annual convention. I consider that this is the only way in which the districts can be truly represented, as we will all admit that the attendance at an annual convention, aside from those having expenses paid, is mostly local.

Another plan for electing directors would be that suggested by me in the Canadian Bee Journal some time ago. Supply each member with a list of members arranged according to their districts, and let voting be done by ballot. The present system of open voting cannot, in my estimation, be too strongly condemned.

MORLEY PETTIT.

Mr. Byer said he thought the social side of the conventions should not be discounted. He thought the Association entitled to Government aid in marketing honey.

Mr. Hall favored electing our neighbors, "because we know them." Voting should be done by ballot.

Mr. Hutchinson thought we should have nominations by mail, as they do in the National Bee-Keepers' Association.

Mr. Dickenson said if a man had been in office say ten years he should be superannuated. Offices should not be held forever by the same men; yet he positively refused to be nominated for office in the Association.

Mr. Holtermann—It is contrary to the Agriculture and Arts Act for local associations to elect directors for the Provincial, but they might nominate. They should not trade and traffic in offices as honors, but put the best men in the best places.

The Directors' Report recommended as Inspector of Apiaries James Armstrong, of Cheapside, and Assistant Inspector, Jacob Alpaugh, of Galt.

The Secretary's report showed 155 members, and 11 affiliated societies.

INSPECTOR'S REPORT—OFFICERS FOR 1906.

Inspector McEvoy gave a long verbal report, and agreed to send in his written report later. He was re-elected, pending the revision of the Act whereby three inspectors will be appointed.

The election of officers for 1906 resulted as follows: President, H. G. Sibbald, of Claude; Vice-President, R. H. Smith, of St. Thomas; Second Vice-President, F. J. Miller, of London; Secretary, Wm. Couse, of Streetsville; and Treasurer, Martin Emigh, of Holbrook. Directors: District No. 1, W. J. Brown, Pendleton; No. 2, J. K. Darling, Almonte; No. 3, M. B. Holmes, Athens; No. 4, R. Lowey, Cherry Valley; No. 5, John L. Gros Jean; No. 6, H. G. Sibbald, Claude; No. 7, J. Alpaugh, Galt; No. 8, Jas. Armstrong, Cheapside; No. 9, R. H. Smith, St. Thomas; No. 10, G. A. Deadman, Brussels; No. 11, F. J. Miller, London; No. 12, Denis Nolan, Newton Robinson; and No. 13, Prof. Sherman, of O. A. College, Guelph. Auditors, J. L. Byer and E. Grainger. Revisers of Report, Morley Pettit and H. G. Sibbald. Representatives to Fairs: Toronto, E. Grainger; London, J. B. Hall; Ottawa, J. K. Darling. Inspector of Apiaries, Wm. McEvoy; Assistant, F. A. Gemmill.

BEE-KEEPING IN JAMAICA.

Arthur Laing, who spent last winter in Jamaica, spoke of the advantages and disadvantages of bee-keeping in that island of the British West Indies. The advantages were a pleasant climate and cheap help. The disadvantages seemed to be many. The first was the difficulty of getting teaming done. There they team with carts of the roughest kind, which can only take eight or ten hives to the trip.

The second, Mr. Laing called the wintering problem, a matter which Northern bee-keepers would expect to go South to escape. From the middle of October for two or three months the bees kept going down. There seemed to be just enough honey coming in to make them wear themselves out flying after it, but not enough to build them up. He mentioned also moths, which can breed all the year round, having no cold season to check them; and ants of many varieties which work havoc in the hives.

With reference to marketing Jamaica honey, prices are very low and sales unsatisfactory. It is stated by buyers who have handled it that Jamaica honey will not keep like other honey.

Mr. Laing showed three samples of honey, Canadian

white clover honey; Jamaica logwood honey, which is two shades darker than white clover and of inferior value; and Jamaica Christmas Bells honey, which is very dark. He had, while there, an average yield of 25 pounds per colony. Suitable packages are very hard to get. Many salt-pork barrels are used, to the disadvantage of the honey. All told, it is very difficult to keep expenses from eating up profits with honey at 2 to 2½ cents per pound.

Miscellaneous Remarks.

Mr. Hershiser said he always learned something when he came to a Canadian convention. He found bee-keepers here averaged up very well with any in the States. Referring to election of officers, he believed in keeping a good man in a good place, yet the office might be changed to another good man, sometimes. Speaking on his subject, "Beeswax Rendering," Mr. Hershiser estimated in Ontario about 200,000 colonies of bees, producing an annual surplus of say, one pound of wax. By the ordinary processes one-fifth of this wax, or about 40,000 pounds, is wasted in rendering. He claimed to have discovered a process whereby all the wax is saved but about one percent.

The Hon. Nelson Monteith addressed the convention. He said he felt the efforts of bee-keepers in the Province were giving good results. We have a large Province, over all of which bees could be kept. At present the industry is only carried on in a small section of the Province, yet it represents an investment of about $1,200,000. The bee-keepers are turning out an excellent article, but are too modest to advertise properly. You haven't pushed your business enough, said Mr. Monteith. Honey, as one of the best natural foods, should be used much more by the people than it is. If every one knew that one pound of honey is equal in food-value to about five pounds of pork, much more of it would be substituted for pork. Also in the matter of varieties of bees it is well to be ambitious for something more than what we have. Whenever we think we have reached the ideal we begin to lose ground. Mr. Monteith remarked, further, that the bee-business has a wider sphere than honey. It is of immense value to the fruit and seed-growers. He stated that it was for this reason he became a bee-keeper himself.

Mr. Hutchinson, who was judge in the Honey Department at the Fruit, Flower and Honey Show, gave some useful advice to exhibitors. He said that some few of the exhibits of honey reminded him of an overdressed person. Simplicity should be the watchword in setting up exhibits. Then the judges should have score cards, on which they could award a number of points for each feature of the exhibit. For instance, in extracted honey so many points could be given for flavor, so many for color, for body, etc. Then figure up the points and decide mathematically the awards.

Mr. Holtermann remarked that a good judge would want to have a score card, and a poor judge should have one. The exhibit of honey was quite up to the usual high standards.

Mr. Hutchinson—In judging wax, I would give equal points to color, clearness, and texture.

Mr. Hershiser—Which do you prefer, wax from cappings or from old combs?

Mr. Pettit—Wax from cappings makes a harder comb foundation, which sags less.

Mr. Holtermann suggested, for experiment, the use of different kinds of wax in the brood-chamber.

Bees Moving Eggs—Wax Rendering.

Ques.—Will bees move eggs?

Mr. Alpaugh—Yes. I had queen-cells built, eggs carried and put in them and queens reared.

Mr. Holtermann and Mr. Pettit both endorsed this.

Ques.—What method does Mr. Hershiser follow in rendering wax?

Mr. Hershiser—The principle is this: Fill a sponge with ink and squeeze it as hard as you like, and you cannot get out all the ink. Dip it in water and squeeze again, and you get more out. Repeat this a few times and the sponge is clean.

Good Bee-Smoker Points.

Ques.—What are the points of a good smoker?

Mr. Alpaugh—It must work easily and throw a good volume of smoke. It must be easy to light, hold fire well, and not be clumsy. Brass in the barrel is a good point, but expensive. A pair of bellows properly made and taken care of will last for 10 years. There should be a fine wire-screen to keep sparks out of the bellows.

Mr. Holtermann wants one that will not draw sparks out on the hands and clothing of the operator. He prefers a long, narrow barrel, because it burns more evenly.

Mr. Miller prefers a smoker wide and long. When once filled it does not puff to a flame, gets a long draft of smoke, and the smoker is quiet. His smoker barrel is 4 by 8½ inches, with a large bellows.

Mr. Holtermann—Moisten the material slightly, then avoid giving violent puffs. Cedar-bark should be thick.

Mr. Pettit—Get bark from a large cedar-log, and the bark will be several inches thick, and holds fire better than anything else.

Mr. Miller holds his smoker between his knees, to be handy when not in use.

Second-Swarms and Queenless Colonies.

Ques.—Will a colony cast a second-swarm, leaving the colony hopelessly queenless?

Mr. Alpaugh—Yes, sometimes when cells have been broken down. I cannot explain it, except that the bees had decided to swarm, and would swarm regardless of what the bee-keeper did.

Keeping Pollen Out of Sections.

Ques.—How best to keep pollen out of sections, and hive on starters?

Mr. Alpaugh—If only foundation in sections, there is no trouble.

Mr. Pettit—Put a pollen-catching comb in the brood-chamber, and use a queen-excluder.

Mr. Sibbald—Don't put the sections on for 24 hours.

Formalin for Curing Foul Brood.

Ques.—Can an apiary be cured of foul-brood with formalin?

Mr. Sibbald—I tried this very thoroughly, and it was not a success. The combs are not fit to use again. The honey will taste of formalin for years.

Mr. Laing has cured one colony, and is working on others.

Sugar Syrup for Feeding—Dark Honey in Sections.

Ques.—Is sugar syrup made by stirring sugar into cold water just as good for feeding as though boiled?

Mr. Hall—Better than boiled, if fed early in September. It never candies.

Ques.—Is there danger of dark honey being carried from the brood-chamber to the sections?

Mr. Alpaugh—Certainly, there is.

Ques.—Is it wise for the bee-keeper to give a full report of his crop, so it gets into the hands of dealers?

Mr. Holtermann—He should give facts just as they are.

Mr. Sibbald—Dealers will not buy honey, except at extremely low figures, until they know the situation.

Appointment of Committees.

Honey Exchange Committee, the same as last year.

Transportation Committee—R. F. Holtermann, J. D. Evans, and Wm. Couse.

Revising Committee—M. Pettit and H. G. Sibbald.

Committee to Fruit, Flower and Honey Show—The Executive Committee of the Association.

(Continued next week.)

Doctor Miller's Question-Box

Send questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Size of Hive for Short Honey-Flow

1. I have come to the idea of putting my bees into big hives, as the honey-flow is short in this part of the country, and we have but a few honey-plants to depend upon. I will make my own hives this year, and I have been planning to make them to hold 12 Hoffman frames. What do you think about it? Do you think they will be too big?

2. I have 18 colonies of bees, all with Italian queens but 5, and as queens are high in price in the spring of the year, I thought to let the requeening go till after July 1, or later, and keep the black drones from coming out and mating with any queens. I will put a zinc board at the bottom of the frames so as to keep the drones in the hive. Will this do? IOWA.

ANSWERS.—1. The size will be all right for extracted honey; but for comb honey it depends upon the management whether you might not do better with smaller hives. By that I mean that the right kind of management with smaller hives might give better results, giving two stories to all colonies needing the room up to the time of harvest. You see you can have just as much room with small hives as with large ones, provided you have stories enough. But for extracted honey it will be less trouble to have the larger hives.

2. Yes, only it will be well occasionally to clean out the dead drones that will accumulate on the bottom. Of course it is not absolutely necessary to do this, only it will be better for the bees not to have a cemetery in the hive.

Wintering in a Bee-Cave

I have my bees in a cave in a clay hill. It is about 24 feet long, 10 feet deep, and 8 feet wide, with a ventilating tube 4 inches square in the back end of the cellar, and reaching within 2 feet of the bottom of the cellar and out at the top. The cellar has double doors. I have 115 colonies in it. The thermometer has stood at 52 degrees Fahr. for about 40 days, and the bees are still. I have kept the ventilator closed, as I am afraid of ventilation by the ventilating tube. It seems to be damp in the cellar. I never had such high temperature in a bee-cellar before. What would you advise me to do? IOWA.

ANSWER.—The weather has been unusually warm, and that may account for the higher thermometer, although so long as the bees are still there can not be any great harm going on. The probability, however, is that in a damp, close cellar at 52 degrees the quietness will not continue. Try opening the ventilator. That will be likely to lower the temperature, and it may make the cellar less damp; and most important of all it will give purer air.

Wintering Packed Bees Outdoors—Ants in Honey—Scorched Honey for Spring Feeding

1. Accompanying this you will find a sketch and description of the way I have prepared my bees for wintering outdoors. How will the bees winter packed this way?

2. After I put some comb honey in the shipping-cases and stored it away large black ants got in it. What would keep them out?

3. I rendered up some honey which was in dark combs. I believe it got a little scorched. Would it do for spring feeding? IOWA.

ANSWERS.—1. Your plan of packing with hay and covering all with boards so as to make the whole rain-proof will probably bring different results in different winters. When a warm day comes, the sun will not warm up the bees through the boards and packing nearly so soon as in a hive without any packing. So if there is a long and severe winter, and only one or two spells warm enough for bees to fly, if those spells occupy only a small part of the day, they might not be warmed up enough to fly, and so winter poorly. On the contrary, if each warm spell is long enough so the bees get warmed up enough for a good flight, they ought to come out in fine condition. It is a question, however, whether in any case your chances might not be better with a good cellar. You are in about the same latitude as I, and if other conditions are the same with you, the cellar ought to be the best place. The trial of part of your bees wintered in, and part out, would help settle the question.

2. A good shipping-case ought to be tight enough to keep out large ants. One way to get the start of the ants would be to have the cases piled on a platform, the platform resting on legs, and the bottoms of the legs standing in old oyster cans or something of the kind containing carbolized oil.

3. It will be perfectly safe to feed it as soon as bees can fly every few days.

Mice in Cellared Hives

I put 6 good colonies in winter quarters last fall, and there are a lot of dead bees all over the front of the hive. They are not whole ones, but small parts, such as the legs, parts of bodies, and heads. Do you think that the other bees do this, or can it be mice? There is about one-half cupful in front of each hive. I am somewhat alarmed about it. They seem to have plenty of honey, and the rest of the bees seem to be very lively. What do you think is the trouble? MINNESOTA.

ANSWER.—Mice, sure. It will not be a bad thing if you screen the entrance so the mice can not pass. Even if by that means you fasten a mouse in a hive, it will be better than to let it have free range of all the hives. It is most likely that the mangled remains are only those of bees that have died, and the mice gnawed them to pieces after their death. There would be no loss in that case, and the harm of the mice is not from their killing bees so much as gnawing the combs.

But when you bar the entrance against the mice, be sure not to fasten the bees in. Use wire-cloth with about 3 meshes to the inch. That leaves the bees free to pass, but bars Mr. Mouse.

"YON YONSON" AND HIS MUSICAL DAUGHTERS.

Translated into ordinary English, this is what "Yon Yonson" wrote us about the above picture:

"Mae, the oldest daughter (16), plays the piano, and Stella (14) plays the mandolin. Minnie is the youngest (12), and plays the second violin. 'Yon' plays the first fiddle, or any of the other instruments. We try to enjoy life as we go. We don't play for dances, but sometimes play for literary meetings.

"We are all lovers of music, and think that home is not complete without music and singing. Good music and singing make both parents and children happier and better, and smooth out many of the rough places in life. My wife is modest, and preferred to operate the camera, so she is not in the picture. The two little 'Yons,' 6 and 8 years old, do not play any of the instruments yet, but sing some. They could not keep from giggling, so were sent outdoors."

Yon Yonson's Trip to the Moon in Search of New Races of Bees

Vel, for long time ay hant vos bean rite to das Merican Bee-paper, but ay just bean to das big N. B.-K. A. meeting in Chicago, so ay goan to tell bout my perience. Maw, she say she hoap ay hav good luck, cause she is kind of fraid da train might tip over, or someting.

Vel, it vos som plenty big crowd, an dom mak plenty big talking bout bees an bissness, an of course dom say lots of tings vot vos smart, but dom don't vos forgot to say sometings bad bout each odder, too. Dom say about 85 percent of goot, an 5 percent of awful bad, an da odder 10 persent dident mount to so very much, but ay feel vell paid for dat 85 percent of good.

Vel, ay stay tree days an den ay start for home on da fast night express. Ay felt kind of tierd and sleepy, but da train go awful fast, an first ting ay know ay vos sitting rite over da track, an ay don't kin hear or see anyting of da train, but a awful nice old man come to me, an he say, "Hello, Yon Yonson! Don't you vont to take some ride on my new air-ship."

"Vot is your name?" ay say.

"A. I. Gleanings," he say.

"All rite," ay say.

So ay git in da air-ship vid Mr. Gleanings, an he tak holt of da leaver, an up ve go.

"Ver you bound for?" ay say.

"Ay yust com from Cuba, an ay goan to da Nort Pole, an mebby to da Moon," he say; "to git some new race of bees vot got toungs long as your arm, an den ay goan to start big quveen yard in Cuba," he say.

"Vel," ay say, "if you git bees vot got toungs as long as your arm, den mebby dom be abel to lick da foul brood in Cuba," ay say.

Vel, in about 45 minit ve landed at da Nort Pole, an den ve put on ours overcoat an mittens, an go out to tak a look at da Pole.

Da Pole is made of sickamore, an is hollow on da inside, an da iss a big not-hole about 6 feet up. Mr. Gleanings he say he tank it vos som bees inside, an den he go to da tool-box an git a Clark's cold-blast smoker an puff som smoke in da not-hole. An purty soon ve hear somebody sneeze, an ven ve look up ve see Mr. Santa Claus sitting on top of da Pole, an he look kine of mad, an he say, "Vy for you mak so big smoking?"

Den Mr. Gleanings he say he is "lookin for some new kine of bees, an he tank mebby da Nort Pole vas a bee-tree."

Mr. Santa Claus say he don't kept bees any more, cause bee-supplies is gittin' so high, an he is fraid Mrs. Santa Claus might git a bee in her bonnet; an Christmas trade is so big dat he all time bussy making yumpin jacks an all kine of toys for da kids, so he git all his honey from da Man in da Moon.

Den he say dat Mrs. Santa Claus got da tooth-ake, so its better ve not stan too close to da not-hole, or she mite give us some lesson on shake swarming.

So ve vish Santa an his family a Merry Christmas, an git in da air-ship agin an start for da Moon.

Vell, it tak 5 hours an 40 minit to git to da Moon, so ve land at Knicklasburg, da capital of da Moon, about 6:30 in da morning.

Da Man in da Moon vas gone to Jupiter on a vacation, but his private secretary say he be glad to show us around.

Mr. Gleanings asked, "Kin you show us some bees?"

"Yes, dom have several apiaries," da secretary say, "but dom is about 500 miles apart, cause in da Moon da bees fly bout 250 miles for honey."

Den ve asked, "Does da Man in da Moon have a home apiary?"

"Yes, da home apiary vas about 50 miles out of town."

So ve git in da air-ship, an da secretary git in da front seat vid Mr. Gleanings, an in bout tree minit ve come to da home apiary.

Vell, da home apiary vos only von big hive, but it is yust 'bout so bigger as Montgomery Ward's big store in Chicago. An had a big elevator on da front side. Da bees vos yust bout so bigger as a yearling calf, and had 14 yellow bands, but dom don't got any vings a tall, but each bee got a little air-ship of his own, an a 5-gallon can an a dipper, an dom yust sail over to da basswood timber, 'bout 200 miles avay, an dip da honey rite out of da blossoms, an fill da can, an den pull for home.

Ven dom got home dom yust exchange da full can for a empty von, an go agin.

Da nurse-bees dom yust set bout 40 cans in da elevator, an den pull on a string, an up she go. Dom store all ders honey in cans, and don't build comb cept for brood-rearing.

Ven ve vos dare dom yust begin to fill da 17th story, but som time dom stop da elevator at secont floor an leave 2 or 3 duzzen cans for brood-rearing.

Vell, of course ay vos surprised, an ven ay seen som bees vid big packs on deirs back, ay asked vot for da bees carried dom big bundles.

Da secretary he say dat vos pollen.

Den I ask, "Ven did dom tack off der honey?" An he say dom never steal da honey from da bees, but ven da bees had any honey to spare, dom yust call up da Man in da Moon, an he come in his air-ship, an da bees carry out so many cans of honey dom kin spare, and put in da air-ship, an he tak it home an store it in da vare house. Da people in da Moon eat only honey, cause dat iss Nature's own food, an ven dom git da cans empty dom have to bring dom back.

In da Moon dom don't have vinter an summer like ve have, but ven it is Full Moon den it is summer, an ven it is New Moon den it is vinter. Dom have daylite all summer, an dark all vinter, so dom have 14 days daylite summer, an den 14 nites all winter. Ay tank dat komes purty handy.

Da bees don't have any stings, an dom don't never fite or rob each odder, an dom mak deirs own cans and supplies—hive an every ting—an all da Mans in da Moon have to do is to go in da air-ship an git da honey an bring back da empty cans.

Dom never have but von hive in da apiary, an dom don't never svarm, but ven da quveen vant to send out new colony she yust lay von quveen egg, an in about tree years it hatch, an ven da young quveens is 4 years old she yust tak half of every ting—cans, honey, air-ships, an ever ting—an half of da bees, an go an hunt for new home. Ven da quven raises a young quven dom raise von young drone, too, an dis young drone go avay mit his sister an by an by he trade sisters vid some odder drone from vay off; but da drone have to move, an da quveens stay in deirs own home. It never is but von drone in a hive, an he is da boss of da can factory an yeneral superintendant of da air-ship department. Da quvens and drones liv fur bout 200 years, an is alvays hapy, an da mans never rob da bees, but da bees give da mans all dom have to spare.

Da Man in da Moon tank lots of his bees, an da bees is in love vid da mans in da Moon. Den ay tank meself how different iss da Moon from da United State. Here da bees rob each odder, an da mans rob da bees, an da bees sting da mans, and da bee-mans quvarl an talk bad bout each odder. Den ay tank 'bout da Honey-Producers' League, vat try to help da bee-keepers, an da bee-keepers don't preciate deir kindness, but call dom bad names, so dom have to feel bad; an ven dom offer to give all da League's money to da N. B.-K. A. da N. B.-K. A. vote to tak all deirs money, an not give anyting in return but hard vords, an dom don't even say "*tank you.*"

Den ay tank meself if all da members could lurn some lessons from da Man in da Moon an his bees, mebby dom vould lak each odder better, an do lots of good in das vorld.

Den ay say to Mr. A. I. Gleanings, "I believe its better ve not try to git bees vid longer tongues; but if da bee-keepers yust had a little shorter tongues; da common Italians is good nuff."

Den ve all git in da air-ship agin an go back to Nicklasburg, an ve shake hans and tank da secretary, an he say ve moste com agin som time, an ve say ve shal be muchy glad to come.

Ay felt lak ay should lak to invite da Man in da Moon to come to ours next N. B.-K. A. meeting, but ay vas 'fraid mebby he might not feel to home, so ve say good-by, an Mr.

Gleanings turn da lever an ve start for da Unite State *via* da Nort Pole.

Ven ve got about half vay from da Moon to da Nort Pole ay lost my hat, an ven ay vas looking for ma hat some von come an shake me, an say, "Vake up! You git off at da next station!" An den ay find ay don't bean to da Nort Pole or da Moon a toll, but ay only vent to sleep on da train, and dreamed da whole ting. YON YONSON.

Reports and Experiences

Results of the Season of 1905

I commenced the season of 1905 with 45 colonies, and took 2300 pounds of comb honey and 200 pounds of extracted. I put 79 colonies into winter quarters apparently in fine condition.

I have taken the American Bee Journal for nearly 30 years, and dare not drop it now.

J. L. ANDERSON.

Harvard, Ill., Jan. 11.

To Keep Beeswax from Cracking

To keep beeswax from cracking, I run a thin-bladed knife about the time the wax forms a crust around the wax in the can. After thus loosening it, I find a solid cake of wax the next morning.

I started with 27 colonies of bees when spring had fairly opened, or after all danger from spring dwindling had passed. They increased to 32 colonies, and I got 1580 pounds of honey, about 200 pounds of it being comb honey in 1-pound sections. There was any amount of honey in the fields, but the weather was too cold and rainy for the bees to go and get it. FRED BECHLY.

Searsboro, Iowa, Dec. 17, 1905.

Considerable Interest in Bees

I began last spring with 3 colonies of bees, and by natural and artificial swarming I increased the number to 12, which I now have. There seems to be considerable interest shown in the bee-business in and about this city. Although the past season was not a profitable honey season, the bees stored a sufficient quantity to carry them through the winter.

PHILIP MOHLER.

Lincoln, Neb., Dec. 22, 1905.

First Failure in 5 Years

For the first time in 5 years my bees were a failure the past season; but as nearly all the bees in Kansas were in the same condition, I have no complaint to make.

GEO. A. REED.

Assaria, Kan., Dec. 18, 1905.

Bees Did Poorly

Bees did very poorly this year. I had 22 colonies last spring, and my average was about 20 pounds per colony. I now have 27 colonies in fair condition. I hope for better success next season. C. JOB.

Cloverdale, Ind., Dec. 29, 1905.

Gasoline for Keeping Dry Combs

I never saw any instructions in the books or papers for keeping dry combs from moths by the use of gasoline. I had a set of combs that was badly affected—they seemed to be alive. I sprinkled some of them with gasoline and put them in a hive-body and shut them up tight. In a day or two I opened it to see how they were getting along. I found every thing asleep, and they stayed so; the vapor of gasoline did the work.

Now, in keeping combs over summer, put them in a tight box with a sponge or something of the kind filled with gasoline. When it gets dry, wet it again. Before using, give them a good airing. I hived a swarm of bees on some last season, and they gave me over 40 pounds of surplus honey.

Thomaston, Conn. C. S. GUERNSEY.

Crackless Wax-Cakes—Wiring Frames

If the sides of the wax-mould were lined with a piece of hard, smooth paste-board, and the bottom was covered ⅛ inch or so with water there would be no more cracks, no matter how rapidly one let it cool. The cause of the trouble is the adhesion of the wax to the sides of the mould, and not the unequal cooling.

The contrivance of Mr. Getaz for wiring frames (see page 842) is very neat, simple, and doubtless effective. Here is another method:

Say the frame is ready for the wire. Fasten one upper corner of it securely in a vise; take one length of wire by each end and give it a good pull, making it 2 to 3 inches longer. This will take all the kinkiness out of it. Fasten one end to a darning-needle and sew the wire into the frame as if it were thread.

Holton, Kan. F. J. REICHERT.

CONVENTION NOTICES.

Washington.—The annual meeting of the Washington State Bee-Keepers' Association will be held in the old M. E. Church, on Third Street, North Yakima, Wash, Feb. 14, 15 and 16, 1906. An interesting program is assured. One feature will be the illustrated lectures on bee-keeping. Let all bee-keepers in different parts of the State attend and make this an interesting and valuable convention.

VIRGIL SIRES, *Sec.*

Wisconsin.—The Wisconsin State Bee-Keepers' Association will meet in annual convention at the Capitol, Madison, Feb. 6 and 7. An interesting program is being prepared. Several bee-keepers of prominence are preparing papers on subjects of special and general interest, which will be discussed. The Question-Box will, however, be the main feature. One and one-third rate round-trip on all Wisconsin railroads. GUS DITTMER, *Sec.*

Augusta, Wis.

Colorado.—The Colorado State Bee-Keepers' annual convention will be held in the Chamber of Commerce Building, Denver, Jan. 30, 31, 1906. This will be during "Farmers' Week," when many farmers' organizations will be in the city holding conventions. We are assured of low railroad fares from all points of the State. We are planning for our usual good convention. R. C. AIKIN, *Sec.*

Loveland, Colo.

Michigan.—Michigan State Bee-Keepers' Association will hold its annual convention Feb. 1 and 2, 1906, in the parlors of the Blackman Hotel, at Jackson. The Michigan Dairymen will hold their annual convention at the same time in Jackson, which secures sufficient attendance to allow the railroads to give reduced rates—one and one-third fare, providing your fare going to Jackson amounts to 75 cents. When buying your ticket ask for certificate on account of Michigan State Dairymen's convention, and when the Secretary of that Association signs your certificate, you can secure your return ticket for one-third fare.

The first session of the convention will be held at 1:30 p.m. Thursday, Feb. 1. A good crowd and a fine time are expected.

ELMORE M. HUNT,

Bell Branch, Mich. *Acting Secretary.*

Honey and Beeswax

CHICAGO, Jan. 8.—The market is steady with about the usual demand; the prices range from 14@15c for best grades of white comb honey. There is not an active demand for off grades, which usually sell at 1@3c per pound less. For extracted a steady demand exists for the best grades at 6½@7c, but for sour or off flavors there is practically no sale.

R. A. BURNETT & Co.

CINCINNATI, Dec. 29.—There is no demand for honey at the present time, on account of the holidays. However, prospects for the coming year are bright, and we are looking forward to a revival of trade about Jan. 15. The price of comb honey remains firm: we quote fancy white at 15@16½ cents. Extracted: amber in barrels at 5@6¼c, according to the quality; fancy white in 60-lb. cans at 7½@8c; amber in cans at 6@7c. (The above are our selling prices of honey.)

We are paying 30c per pound delivered here for choice yellow beeswax.

THE FRED W. MUTH CO.

TOLEDO, Oct. 17—The honey market remains firm, with good demand, and prices the same as last quotations. Fancy white comb brings 15c; No. 1, 14c; fancy amber, 13c; buckwheat, 13c. Extracted, white clover, in barrels, 6½@6¾c; amber, in barrels, 5@5½c; in cans, 1c to 1½c higher. Beeswax in good demand, 26c cash, 28c trade. GRIGGS BROS.

INDIANAPOLIS, Dec. 15.—There is a tendency for higher prices on best grades of honey. The demand for strictly fancy white comb honey exceeds the supply. Demand for lower grades of comb honey not good. Numerous shipments of honey arriving, but no one producer seems to have very great quantities to offer. I quote fancy white at 15@16c; No. 1 in poor demand at 12c, and amber dull at10c. Best grade extracted brings 8@9c in 60-lb. cans; amber slow at 6c. Beeswax, 30@33c. WALTER S. POUDER.

NEW YORK, Jan. 10.—Comb honey pretty well cleaned up and there is still a fair demand. We quote fancy white at 14@15c; No. 1, at 13c; amber, at 12c; buckwheat, at 10@11c. Extracted in fair demand, especially California, with abundance of supply. We quote white at 6½@7c; light amber, 6@6½c; amber, 5½@5¾c; buckwheat, 5½@6c; Southern, in barrels, not much demand, and rather hard to sell, at from 50@60 cents per gallon, according to quality.

Beeswax firm and steady at 30c per pound.

HILDRETH & SEGELKEN.

DENVER, Nov. 11.—No. 1 white comb honey, per case of 24 sections, $3.35; No. 1 light amber, $3.00; No. 2, $2 50@3.00. Extracted honey, 6½@7 cts. per pound. Supply is light and we coud make quick sales of consignments at above figures. We pay 24c for clean, yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASSN.

CINCINNATI, Jan. 8. — The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5½@5¾c; in cans, ½c more; white clover, 7@8c. Beeswax, 28@30c. C. H. W. WEBER.